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VOLUME 63



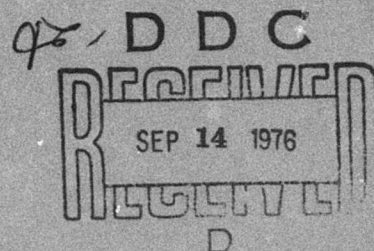
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**USAF BIOENVIRONMENTAL NOISE DATA
HANDBOOK
VOLUME 63
F-15A AIRCRAFT, NEAR AND FAR-FIELD NOISE**

NOVEMBER 1975

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AEROSPACE MEDICAL RESEARCH LABORATORY
AEROSPACE MEDICAL DIVISION
Air Force Systems Command
Wright-Patterson Air Force Base, Ohio 45433



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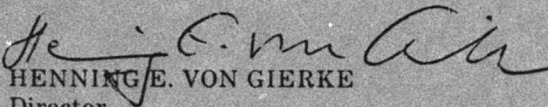
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This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER


HENNING E. VON GIERKE
Director
Biodynamics and Bionics Division
Aerospace Medical Research Laboratory

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C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distance from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc

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PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723104, Measurement of Noise and Vibration Environments of Air Force Operations.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Capt Nick Farinacci and Mr. Jerry Speakman for their assistance in acquiring the raw data, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing and Mrs. Norma Peachey and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

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INTRODUCTION

The USAF F-15A is an air superiority fighter-type aircraft powered by two F100-PW-100(1) turbofan engines which are the major source of ground runup noise. A second source of less importance is the aircraft's on-board jet fuel starter; a small jet engine used to supply electrical and air power to start the turbofan engines.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the F-15A aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and aerospace ground equipment. The far-field, community-type, noise data in the handbook describe the noise produced during *ground operations* of aircraft, aerospace ground equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

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1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1) Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
 2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the F-15 aircraft during ground runup operations of its jet fuel starter (JFS) and turbofan engines. For these tests, the aircraft was located on a concrete runup pad at Edwards AFB with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the surface meteorological conditions and the five engine or JFS power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location, a test engineer randomly moved a hand held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all of the noise samples on magnetic tape. During analysis of each sample, he determined the root-mean-square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. Figure 1 shows the 10 near-field locations where ground crews are usually located for maintenance and/or preflight checkout operations. Similar crew locations are on the right side of the aircraft but were not measured since the noise source is symmetrical (same noise at opposite side). Estimates of noise levels at other locations in the near-field are difficult since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.) Because of this problem, no attempts should be made to estimate near-field noise. Instead, we recommend you measure the A-weighted sound levels at such locations.

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A ground crew location 1 and test condition A.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the F-15A aircraft at the 10 ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3, which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distances involved.

TABLE 1
MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

F-15A Aircraft, Ground Runup, Edwards AFB, CA
 28 January 1974
 Tail #10282

Ground Crew Location

1 through 10

Near Field Grid

Aircraft Engine (and AGE) Operation

A	Jet Fuel Starter (unloaded)
B	Both Engines Idle
C	Both Engines 80% RPM
D	Left Engine Military
E	Left Engine Full Augmentation

Meteorology

Temperature	12.8 C
Bar Pressure	.703 M Hg
Rel Humidity	26 %
Wind — Speed	1 M/Sec
— Direction	340 Deg

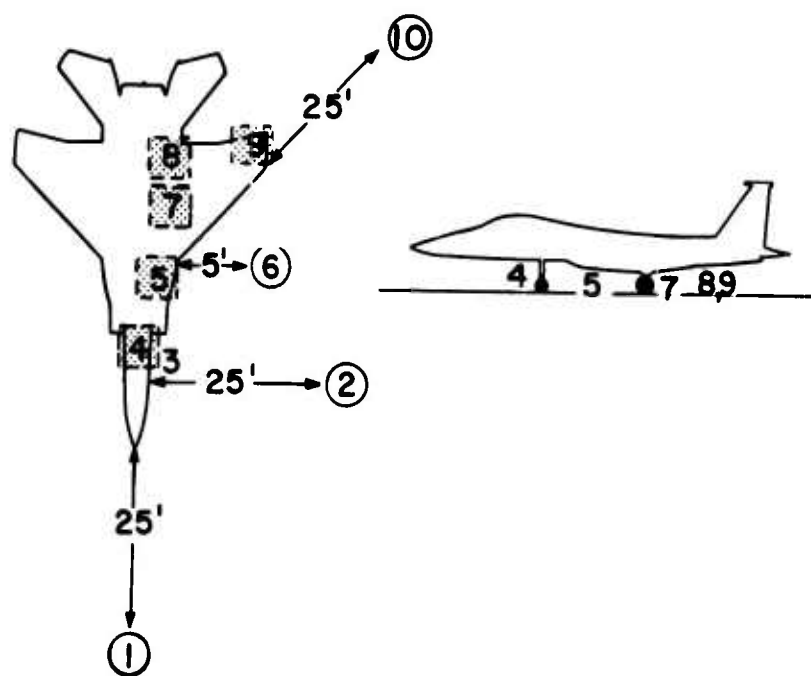


Figure 1. Near-Field Measurement Locations at Pad 18, Edwards AFB, CA

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired both near- and far-field data during a 1-2-hour test period, thus keeping similar meteorological conditions. Figure 2 shows the ground runup pad, ground cover, aircraft orientation and 19 microphone measurement sites on each of two semicircles. The center of the 75 meter radius semicircle used in surveying the F100-PW-100(1) engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines' exhaust-nozzle exits. The center of the 35-meter semicircle used in the noise survey of the jet fuel starter was on the ground directly below the aircraft's centerline and the center of the JFS's exhaust-nozzle exit.

Table 4 provides cockpit readouts of engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table, are the surface meteorological conditions during data acquisition.

All 38 microphone measurement sites are in the acoustic far-field of their respective source where the sound wave-fronts spherically diverge and the noise source may be regarded as a point source.

During far-field data acquisition test, personnel moved the microphone vertically from 0.5 to 3 meters above the ground at a uniform rate within 5-10 seconds. These samples were then time-integrated (4-8 second time integration period) to derive a root-mean-square sound pressure level. This method of spatial scanning and long time integrating minimizes anomalies frequently produced in data acquired over reflecting surfaces by fixed-height microphones. Such anomalies result from the interaction between direct and ground-reflected sound waves and typically appear as dips or valleys at selected frequencies in the sound pressure level spectra. Although data acquired by a fixed-height microphone are accurate for that specific location and height, they generally are not desirable as a basis for extrapolating to other distances. The scanning technique described provides better baseline data yielding extrapolated levels with fewer such anomalies.

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the F-15A aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

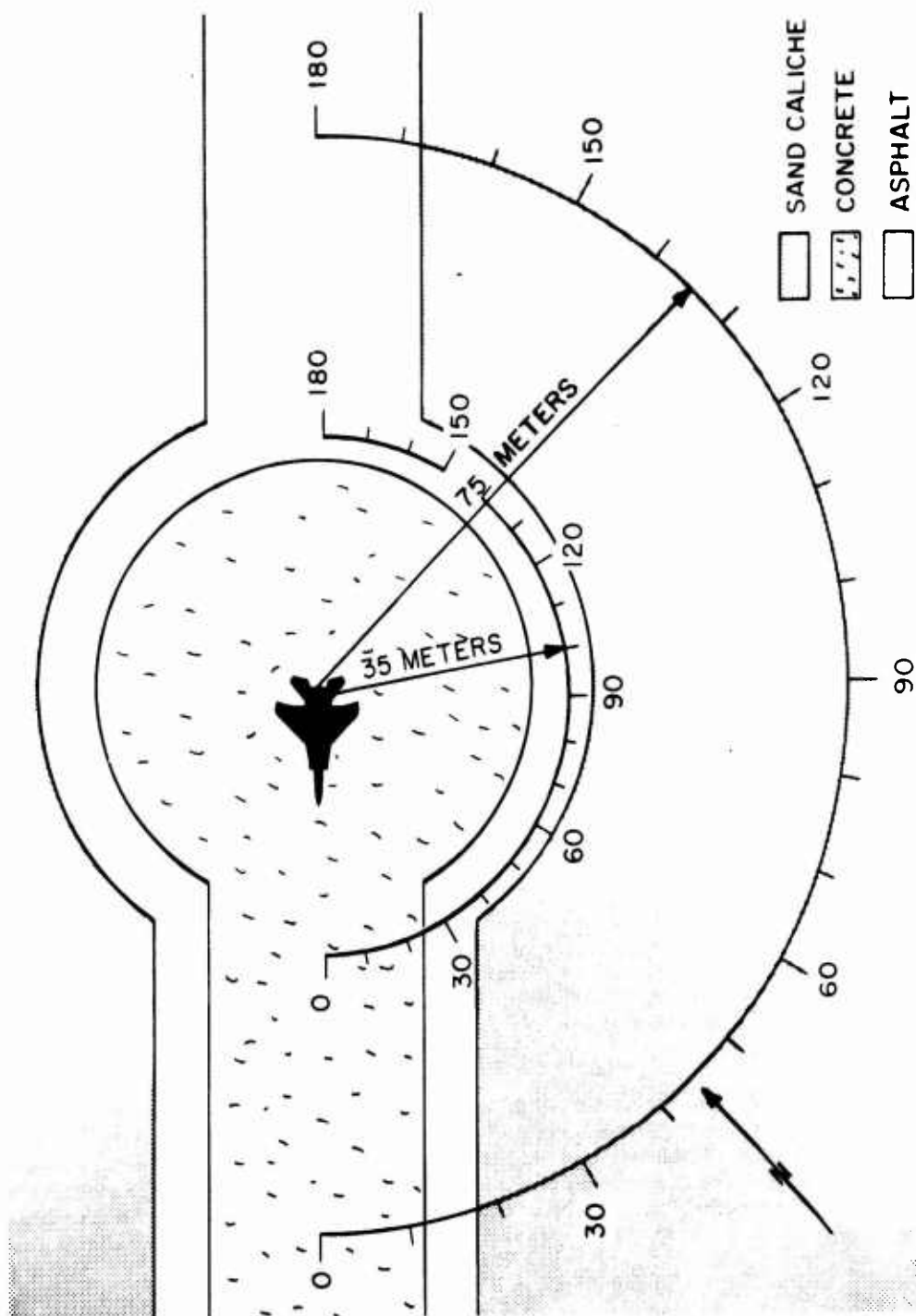


Figure 2. Far-Field Measurement Locations at Pad 18, Edwards AFB, CA

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 170 and 180 degree locations for higher power settings because of turbulent air flow behind the aircraft.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low. In some cases, contour levels at these missing data points were estimated and indicated with dashed lines. In a few cases, there are so many data points missing that the octave-band sound pressure level figures have no contours for an entire octave-band (e.g., Figure 11, 31.5 Hz band, jet fuel starter only).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:	
2										OMEGA 3.2	
										TEST 73-067-011	
NOISE SOURCE/SUBJECT:										RUN 01	
F-15A AIRCRAFT											
GROUND CREW										02 DEC 74	
NEAR FIELD NOISE LEVELS										PAGE F1	
LOCATION/CONDITION											
FREQ (HZ)	1/A	2/A	3/A	4/A	5/A	6/A	7/A	8/A	9/A	10/A	
25	63<	62<	64<	65<	71	67<	78	80	68	64<	
31.5	58<	59<	60<	62<	73	68	76	81	56	57<	
40		62<	64<	65<	73	70	77	83	69	61<	
50	63<	66<	64<	65<	74	74	80	85	71	65<	
63		72<	68<	69<	77<	78<	85	89	77<	69<	
80		74<	74<	76<	83	80	89	91	77<	71<	
100	70<	75	81	81	87	83	92	99	87	78	
125	70<	77	80	81	88	84	96	99	84	77	
160	73	79	82	83	87	85	93	99	81	77	
200	69	75	79	85	86	83	93	97	84	78	
250	79	91	87	94	99	98	109	112	93	92	
315	83	94	90	97	102	101	112	115	96	94	
400	80	82	86	89	96	92	103	105	88	81	
500	72	81	85	89	93	90	102	107	93	79	
630	75	85	88	90	98	94	104	111	98	83	
800	74	80	84	84	94	88	100	106	93	83	
1000	75	79	85	85	93	88	100	103	92	86	
1250	75	78	85	84	94	87	99	103	90	85	
1600	72	78	84	82	91	86	98	101	87	82	
2000	69	75	81	80	89	82	95	99	84	79	
2500	66	73	78	77	87	80	93	96	82	77	
3150	64	71	77	77	86	79	92	94	81	78	
4000	63	71	77	77	86	79	94	97	81	78	
5000	63	70	77	77	86	78	93	95	81	76	
6300	64	71	80	79	89	80	95	96	81	74	
8000	64	69	80	79	89	80	96	97	81	74	
10000	70	75	87	86	6	86	101	101	86	76	
OVERALL	38	97	97	101	107	105	116	119	103	98	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:	
2										OMEGA 3-2	
										TEST 73-067-011	
NOISE SOURCE/SUBJECT: (OPERATION:										RUN 02	
F-15A AIRCRAFT										02 DEC 74	
GROUND CREW										PAGE F2	
NEAR FIELD NOISE LEVELS											
LOCATION/CONDITION											
FREQ (HZ)	1/B	2/B	3/B	4/B	5/B	6/B	7/B	8/B	9/B	10/B	
25	72	79	86	88	86	84	92	91	88	86	
31.5	74	81	89	90	90	86	90	93	92	87	
40	75	83	92	93	91	87	88	89	87	83	
50	72	80	89	89	90	85	89	88	84	80	
63	74	81	90	91	93	87	92	90	83	80	
80	71	78	86	88	91	85	91	88	82	79	
100	75	80	90	93	91	86	87	88	83	83	
125	76	80	90	92	89	85	90	97	87	83	
160	76	80	91	93	91	87	94	101	89	86	
200	77	78	92	92	90	84	91	93	85	83	
250	77	79	93	93	91	85	90	92	85	82	
315	77	79	93	94	90	86	92	93	89	83	
400	81	86	95	96	98	93	102	100	94	88	
500	81	80	94	95	90	86	92	92	85	88	
630	81	80	94	95	90	86	91	92	87	88	
800	82	81	96	96	95	89	96	95	90	87	
1000	84	83	99	97	91	87	93	93	87	86	
1250	91	87	105	103	96	91	95	95	89	84	
1600	94	90	109	107	98	93	97	96	92	85	
2000	93	91	107	106	96	90	94	93	89	84	
2500	111	109	127	125	113	107	109	107	103	94	
3150	106	106	122	122	109	103	105	104	99	91	
4000	111	106	125	123	108	104	106	106	100	97	
5000	107	105	122	121	106	102	103	102	98	95	
6300	106	103	121	120	103	98	99	98	93	90	
8000	106	104	122	120	103	98	100	100	94	93	
10000	104	101	120	118	100	95	97	97	92	97	
OVERALL	116	114	132	130	117	111	114	113	108	104	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										
1/3 OCTAVE BAND										
IDENTIFICATION:										
2										OMEGA 3.2
										TEST 73-067-011
										RUN 03
										02 DEC 74
										PAGE F3
NOISE SOURCE/SUBJECT: (OPERATION:)										
F-15A AIRCRAFT ()										
GROUND CREW ()										
NEAR FIELD NOISE LEVELS ()										
LOCATION/CONDITION										
FREQ (HZ)	1/C	2/C	5/C	6/C	7/C	8/C	9/C	10/C		
25	82	85	94	91	98	97	94	101		
31.5	82	86	95	92	97	96	96	103		
40	84	90	99	93	99	100	98	104		
50	83	90	96	93	101	100	97	106		
63	86	92	98	96	102	101	98	109		
80	89	94	101	97	102	102	100	110		
100	94	97	102	99	103	105	102	113		
125	96	99	105	103	107	109	105	116		
160	95	98	105	104	109	110	107	117		
200	96	99	106	104	111	111	105	113		
250	96	100	108	105	109	111	106	112		
315	96	100	103	106	111	112	110	114		
400	97	100	108	106	112	112	110	116		
500	98	101	109	108	113	113	111	117		
630	98	102	109	108	113	114	110	117		
800	96	102	107	107	114	115	111	116		
1000	97	102	109	108	114	114	111	115		
1250	97	102	109	108	113	114	110	114		
1600	97	103	109	107	113	114	110	113		
2000	97	101	108	106	112	113	109	112		
2500	97	100	107	105	111	112	108	110		
3150	98	100	106	104	110	110	108	108		
4000	103	102	108	106	112	113	109	109		
5000	105	104	113	106	112	112	107	106		
6300	102	104	109	105	109	110	106	105		
8000	101	103	107	104	110	111	107	105		
10000	100	103	107	104	108	109	105	103		
OVERALL	112	115	121	119	124	125	122	127		
LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.										

TABLE 1		MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:	
2		1/3 OCTAVE BAND											

TABLE 1 MEASURED SOUND PRESSURE LEVEL (DB)						
2 1/3 OCTAVE BAND						
	NOISE SOURCE/SUBJECT:	(OPERATION:				
	F-15A AIRCRAFT	(
	GROUND CREW	(
	NEAR FIELD NOISE LEVELS	(
			LOCATION/CONDITION			
FREQ (HZ)	2/E	5/E	6/E	7/E	8/E	9/E 10/E
25						
31.5						
40						
50						
63						
80						
100						
125						
160						
200						
250						
315						
400						
500						
630						
800						
1000						
1250						
1600						
2000						
2500						
3150						
4000						
5000						
6300						
8000						
10000						
OVERALL	126	133	134	136	138	137 148

IDENTIFICATION:
 OMEGA 3.2
 TEST 73-067-011
 RUN 05
 02 DEC 74
 PAGE F5

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										
2 OCTAVE BAND										
IDENTIFICATION:										
OMEGA 3.2										
TEST 73-067-011										
RUN 02										
02 DEC 74										
PAGE J2										
NOISE SOURCE/SUBJECT: (OPERATION:										
F-15A AIRCRAFT										
GROUND CREW										
NEAR FIELD NOISE LEVELS (
LOCATION/CONDITION										
FREQ (HZ)	1/B	2/B	3/B	4/B	5/B	6/B	7/B	8/B	9/B	10/B
31.5	79	86	94	95	94	91	95	96	94	90
63	77	85	93	94	96	90	96	93	88	84
125	80	85	95	97	95	91	98	102	92	89
250	82	83	98	98	95	90	96	97	91	87
500	86	87	99	100	99	94	103	101	95	93
1000	92	89	106	105	99	94	100	99	94	90
2000	111	109	127	125	113	107	109	107	103	95
4000	113	110	128	127	113	108	109	109	104	100
8000	110	107	126	124	107	102	103	103	98	99
OVERALL	116	114	132	130	117	111	114	113	108	104

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)									
2									
OCTAVE BAND									
IDENTIFICATION:									
OMEGA 3.2									
TEST 73-067-011									
RUN 03									
02 DEC 74									
PAGE J3									
NOISE SOURCE/SUBJECT: (OPERATION:)									
F-15A AIRCRAFT ()									
GROUND CREW ()									
NEAR FIELD NOISE LEVELS ()									
LOCATION/CONDITION									
FREQ (HZ)									
1/C 2/C 5/C 6/C 7/C 8/C 9/C 10/C									
31.5	87	92	100	97	103	103	101	108	
63	91	97	103	100	107	106	103	113	
125	100	103	109	107	112	113	110	120	
250	101	105	112	110	115	116	112	118	
500	102	106	113	112	117	118	115	122	
1000	101	107	113	112	118	119	115	120	
2000	102	106	113	111	117	117	114	116	
4000	108	107	113	110	116	117	113	113	
8000	106	109	112	109	114	115	111	109	
OVERALL	112	115	121	119	124	125	122	127	

TABLE: MEASURED SOUND PRESSURE LEVEL (D3)										IDENTIFICATION:	
OCTAVE BAND											
2											
NOISE SOURCE/SUBJECT:										OPERATION:	
F-15A AIRCRAFT										OMEGA 3-2	
GROUND CREW										TEST 73-067-011	
NEAR FIELD NOISE LEVELS										RUN 04	
										02 DEC 74	
										PAGE J4	
LOCATION/CONDITION											
FREQ (HZ)	2/D	5/D	6/D	7/D	8/D	9/D	10/D				
31.5	95	104	101	104	104	104	113				
63	100	107	105	108	109	107	119				
125	106	114	114	117	118	115	128				
250	110	118	117	120	121	117	129				
500	114	123	122	126	127	123	134				
1000	116	122	123	126	127	126	132				
2000	113	119	120	124	124	123	130				
4000	109	116	117	123	122	121	127				
8000	107	114	116	120	119	119	122				
OVERALL	121	128	128	132	133	131	139				

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)									
2 OCTAVE BAND									
IDENTIFICATION:									
OMEGA 3.2									
TEST 73-067-011									
RUN 05									
F-15A AIRCRAFT									
GROUND CREW									
NEAR FIELD NOISE LEVELS									
PAGE J5									
LOCATION/CONDITION									
FREQ (HZ)	2/E	5/E	6/E	7/E	8/E	9/E	10/E		
31.5	109	117	115	117	117	118	123		
63	114	118	119	121	122	119	130		
125	117	122	123	125	127	124	136		
250	119	125	125	128	129	127	138		
500	119	126	128	130	131	130	145		
1000	120	126	128	129	132	131	141		
2000	118	125	127	128	130	130	138		
4000	114	122	124	127	129	129	136		
8000	112	120	122	123	126	126	132		
OVERALL	126	133	134	136	138	137	148		

TABLE: MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATION:
3										
NOISE SOURCE/SUBJECT:	(OPERATION:									
F-15A AIRCRAFT	(									OMEGA 3.2
GROUND CREW	(									TEST 73-067-011
NEAR FIELD NOISE LEVELS	(									RUN 02
	(									02 DEC 74
	(									PAGE H2
LOCATION/CONDITION										
	1/B	2/B	3/B	4/B	5/B	6/B	7/B	8/B	9/B	10/B
HAZARD/PROTECTION										
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN D3C) AT EAR										
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN D3A) AT EAR										
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)										
NO PROTECTION										
OASLC	115	113	131	129	116	111	113	112	107	103
OASLA	117	115	132	131	117	112	114	113	108	103
T	P	2.2	P	P	P	3.8	2.7	3.2	8	18
MINIMUM QPL EAR MUFFS										
OASLA*	89	87	104	103	89	84	87	87	81	78
T	202	285	15	18	202	480	285	285	807	960
AMERICAN OPTICAL 1700 EAR MUFFS										
OASLA*	83	81	99	97	83	78	81	81	75	73
T	571	807	35	50	571	960	807	807	960	960
V-51R EAR PLUGS										
OASLA*	86	83	101	99	86	81	84	83	78	75
T	339	571	25	36	339	807	490	571	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51K EAR PLUGS										
OASLA*	73	70	88	87	73	67	70	69	64	62
T	960	960	240	285	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT										
OASLA*	90	88	105	104	91	86	88	86	82	75
T	170	240	13	15	143	339	240	339	679	960
COMMUNICATION										
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)										
PSIL	96	95	110	110	104	98	104	103	97	93
ANNOUNCE										
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PND9)										
TONE CORRECTION (C IN DB)										
PNLT	134	131	143	147	135	129	131	130	125	120
C	4	4	4	4	4	3	3	3	3	2

[illegible]

TABLE: MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATION:
3										OMEGA 3.2
NOISE SOURCE/SUBJECT: (OPERATION:)										TEST 73-067-011
F-15A AIRCRAFT ()										RUN 04
GROUND CREW ()										02 DEC 74
NEAR FIELD NOISE LEVELS ()										PAGE H4
LOCATION/CONDITION										
2/D 5/D 6/D 7/D 8/D 9/D 10/D										
HAZARD/PROTECTION										
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR										
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR										
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)										
NO PROTECTION										
OASLC										
OASLA										
T										
MINIMUM QPL EAR MUFFS										
OASLA*										
T										
AMERICAN OPTICAL 1700 EAR MUFFS										
OASLA*										
T										
V-51R EAR PLUGS										
OASLA*										
T										
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS										
OASLA*										
T										
H-133 GROUND COMMUNICATION UNIT										
OASLA*										
T										
COMMUNICATION										
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)										
PSIL										
ANNNOYANCE										
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)										
TONE CORRECTION (C IN DB)										
PNLT										
C										

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE: MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATION:
3										OMEGA 3.2
										TEST 73-067-011
										RUN 05
										02 DEC 74
										PAGE 45
NOISE SOURCE/SUBJECT: (OPERATION:										
F-15A AIRCRAFT										
GROUND CREW										
NEAR FIELD NOISE LEVELS										
LOCATION/CONDITION										
	2/E	3/E	6/E	7/E	8/E	9/E	10/E			
HAZARD/PROTECTION										
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR										
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR										
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)										
NO PROTECTION										
OASLC	126	132	134	136	138	137	148			
OASLA	124	131	133	135	137	137	146			
T	P	P	P	P	P	P	P			
MINIMUM QPL EAR MUFFS										
OASLA*	102	108	109	111	113	112	124			
T	21	8	6	4.5	3.2	3.8	P			
AMERICAN OPTICAL 1700 EAR MUFFS										
OASLA*	96	102	104	106	108	106	118			
T	60	21	15	11	8	11	P			
V-51R EAR PLUGS										
OASLA*	99	105	107	109	111	110	122			
T	36	13	9	6	4.5	5	P			
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS										
OASLA*	86	92	94	95	97	96	107			
T	339	120	85	71	50	60	9			
H-133 GROUND COMMUNICATION UNIT										
OASLA*	97	103	105	107	109	109	118			
T	50	18	13	9	6	6	P			
COMMUNICATION										
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)										
PSIL	119	125	128	129	131	130	141			
ANNOYANCE										
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)										
TONE CORRECTION (C IN DB)										
PNLT	137	144	146	148	150	150	159			
C	0	0	0	0	0	0	0			

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE 4
TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS

F-15A Aircraft, Ground Runups, Edwards AFB, CA
28 January 1975
Tail #10282

Aircraft Engine Operation

Jet Fuel Starter	Engines Off
Idle	Both Engines
	63 % RPM, Core Speed
	395 C, Fan Turbine
	Inlet Temperature
	950 LBS/HR, Fuel Flow
80% Runup	Both Engines
	80 % RPM, NC
	925 C, FTIT
	7800 LBS/HR, FF
Intermediate (Military)	Both Engines
	90 % RPM, NC
	925 C, FTIT
	7800 LBS/HR, FF
80%	Left Engine
	80 % RPM, NC
	690 C, FTIT
	4150 LBS/HR, FF
Intermediate (Military)	#1 (Left) Engine
	90 % RPM, NC
	930 C, FTIT
	7850 LBS/HR, FF
Full Augmentation	#1 (Left) Engine
	90 % RPM, NC
	930 C, FTIT
	38,200 LBS/HR, FF

Meteorology

Temperature	12.8 C
Bar Pressure	0.703 M Hg
Rel Humidity	26 %
Wind — Speed	1 M/Sec
— Direction	340 Deg.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 35 METERS																
NOISE SOURCE/SUBJECT:																
OPERATION:																
METEOROLOGY:																
TEMP = 13 C																
BAR PRESS = .703 M HG																
REL HUMID = 26 %																
F-15A AIRCRAFT																
F100-PW-100(1) ENGINE																
JET FUEL STAKTER ON																
FREE FLOW																
FREQ																
(HZ)																
ANGLE (DEGREES)																
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																
25																
31.5																
40																
50																
63																
80																
100	66<	65<	69<	70<	68<	67<	68<	69<	67<	68<	67<	68<	69<	67<	68<	69<
125	66<	66<	72<	71<	70<	69<	68<	69<	69<	68<	67<	68<	69<	67<	68<	69<
150	69	67<	69	65<	68<	69	68<	69	69	68<	67	68	69	67	68	69
200	65	63	63	68	64	65	67	69	69	69	70	69	69	70	69	68
250	73	79	85	85	83	83	71	82	80	80	77	87	88	89	89	86
315	73	79	84	85	83	85	72	82	81	82	79	89	88	89	86	86
400	73	70	73	71	70	75	72	68	67	71	71	75	76	75	73	71
500	71	66	70	71	69	70	69	71	70	72	75	76	77	76	73	70
630	70	71	72	72	72	73	72	75	72	74	77	78	80	81	78	76
800	69	67	68	68	69	71	72	72	71	73	71	74	75	74	76	74
1000	69	69	68	67	68	69	69	69	68	69	69	72	72	73	74	71
1250	70	69	68	67	66	67	68	68	66	66	68	70	71	72	71	66
1600	60	67	67	67	68	67	69	66	66	66	68	71	73	74	71	68
2000	64	64	64	63	63	64	60	60	61	62	64	67	68	70	69	66
2500	62	61	62	60	60	61	62	60	59	60	62	65	66	68	67	64
3150	59	58	60	58	58	59	60	58	59	58	59	63	64	66	63	61
4000	58	58	59	58	58	59	61	57	59	58	65	66	66	62	59	58
5000	58	57	57	58	57	58	58	56	61	57	59	62	62	59	57	55
6300	58	58	59	58	57	58	57	56	62	55	54	57	58	59	56	55
8000	57	58	58	57	56	50	56	56	60	53	52	54	56	55	53	51
10000	62	62	62	61	59	60	60	61	65	55	54<	55	56	56	55	52<
OVERALL	81	83	88	88	87	88	82	86	85	86	84	92	87	92	92	89

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (D3)																	IDENTIFICATION:	
1/3 OCTAVE BAND																		
DISTANCE = 75 METERS																		
NOISE SOURCE/SUBJECT:																		
(OPERATION:)																		
(IDLE POWER)																		
(60% RPM)																		
(90% ENGINES)																		
(FREE FLOW)																		
F-15A AIRCRAFT																		
F100-PW-100(1) ENGINE																		
FAR FIELD NOISE																		
METEOROLOGY:)																		
TEMP = 15 C																		
BAR PRESS = .703 H HG																		
REL HUMID = 26 %																		
PAGE 2																		
FREQ																		
(HZ)																		
ANGLE (DEGREES)																		
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																		
25	68<	68<	68<	67<	70	69	70	69	71	74	72	74	74	74	74	74	74	72
31.5	68	68	69	70	71	71	71	71	73	75	75	75	75	76	76	76	75	73
40	66<	66<	65<	67<	68	68	69	69	68	69	70	71	72	73	72	71	70	70
50	60<	62<	61<	63<	64<	63<	64<	63<	64<	64<	64<	64<	64<	64<	64<	64<	64<	63<
63																		
80																		
100	64<	65<	65<	66<	67<	68<	69<	68<	69<	69<	69<	69<	69<	69<	69<	69<	69<	69<
125	66<	66<	66<	67<	68<	68<	69<	68<	69<	69<	69<	69<	69<	69<	69<	69<	69<	69<
160	68	68	68	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
200	68	68	68	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
250	69	70	67	65	66	65	65	64	63	63	63	63	63	63	63	63	63	63
315	68	68	66	64	65	62	63	61	63	63	63	63	63	63	63	63	63	63
400	70	71	68	67	65	63	64	61	63	63	63	63	63	63	63	63	63	63
500	69	68	66	65	63	59	59	56	59	60	63	64	67	66	64	64	64	64
630	70	68	67	65	61	60	58	55	58	59	63	63	63	63	63	63	63	63
800	71	68	70	67	62	62	62	61	57	50	59	61	63	65	66	64	63	61
1000	70	68	67	63	60	59	58	56	57	51	59	61	63	65	66	64	62	58
1250	75	74	72	68	64	63	62	63	58	58	59	59	63	64	65	62	63	59
1600	81	80	78	75	70	68	67	65	62	61	64	63	63	66	64	65	62	59
2000	77	77	75	73	71	68	66	64	60	58	62	61	62	66	66	62	52	59
2500	92	92	89	88	86	84	81	77	72	67	70	68	68	71	75	69	70	64
3150	94	93	90	87	83	79	76	73	68	61	65	67	67	70	74	73	73	66
4000	90	89	87	86	83	79	76	73	68	61	65	67	67	70	74	73	73	66
5000	89	88	85	84	82	80	78	72	69	63	66	69	69	72	75	66	64	58
6300	83	82	80	79	76	74	73	68	62	54	63	66	69	72	75	66	64	60
8000	79	78	76	74	72	69	67	62	57	50	55	59	61	59	59	62	55	51
10000	73	72	69	67	65	62	61	55	50	47	53	56	58	55	53	52	53	46
OVERALL	98	97	95	94	91	90	87	84	81	80	82	82	83	83	85	83	81	78

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																	IDENTIFICATION:	
1/3 OCTAVE BAND																		
DISTANCE = 75 METERS																	OMEGA 1.4	
NOISE SOURCE/SUBJECT:																	TEST 75-002-029	
() RUN 03	
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TABLE: MEASURED SOUND PRESSURE LEVEL (03)																			
1/3 OCTAVE BAND																			
DISTANCE = 75 METERS																			
NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:) IDENTIFICATION:																			
(F-15A AIRCRAFT (80% RPM) TEMP = 13 C))																			
(F100-PW-100(1) ENGINE (SINGLE ENGINE) BAR PRESS = .703 M HG))																			
(FAR FIELD NOISE (FREE FLOW) REL HUMID = 26 %))																			
PAGE 2																			
FREQ (HZ)																			
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
25	69	69	70	72	71	72	73	77	77	78	80	77	88	91	92	94			
31.5	69	70	71	72	73	74	74	77	77	78	81	84	90	94	94	98			
40	74	73	73	74	76	77	78	79	80	81	81	86	91	97	98	101			
50	73	72	73	76	77	77	77	80	78	82	83	82	87	94	98	102	103		
63	75	75	76	76	77	78	77	79	81	83	84	85	89	94	104	105	105		
80	77	77	79	79	78	80	81	82	82	85	87	89	93	98	105	108	106		
100	81	79	82	81	82	82	83	84	84	87	88	90	95	100	106	110	108		
125	85	85	88	87	86	86	87	87	87	88	90	93	98	105	108	112	111		
160	85	84	86	85	85	85	86	87	88	91	92	95	99	109	112	113	113		
200	86	86	86	85	85	85	85	88	88	90	93	96	100	107	114	110	114		
250	87	86	85	87	85	85	85	88	88	89	91	96	100	107	112	112	115		
315	84	85	86	86	86	84	84	87	88	88	93	95	101	107	109	113	113		
400	85	86	87	85	84	82	82	86	88	87	92	94	99	103	108	110	110		
500	85	86	85	84	83	80	80	84	86	86	89	92	98	102	106	106	108		
630	85	85	86	83	82	81	80	83	85	85	88	90	96	100	104	104	106		
800	82	83	84	81	78	80	79	81	84	83	85	88	94	98	102	101	102		
1000	81	81	82	79	77	79	79	80	83	83	83	88	92	98	100	98	99		
1250	81	81	81	79	76	78	79	80	83	81	83	87	91	95	98	94	93		
1600	80	81	82	80	78	79	80	80	82	82	82	86	90	95	91	89			
2000	79	80	81	80	79	79	80	80	80	81	85	89	93	92	88	86			
2500	78	79	79	77	78	77	78	79	79	80	84	87	90	89	85	83			
3150	79	80	78	78	77	77	78	78	78	77	79	82	86	88	86	81	80		
4000	82	84	82	80	79	78	77	77	77	77	78	83	84	86	84	80	77		
5000	80	82	81	79	78	77	74	75	74	73	76	79	80	82	80	75	73		
6300	76	77	76	75	74	73	72	70	70	68	71	75	75	77	75	71	69		
8000	71	73	71	70	70	69	67	66	66	66	68	71	72	74	73	70	68		
10000	66	67	66	64	63	63	61	61	61	60	63	66	71	71	69	69			
OVERALL	96	96	97	96	95	95	95	97	98	99	101	104	109	115	120	121	122		
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																			

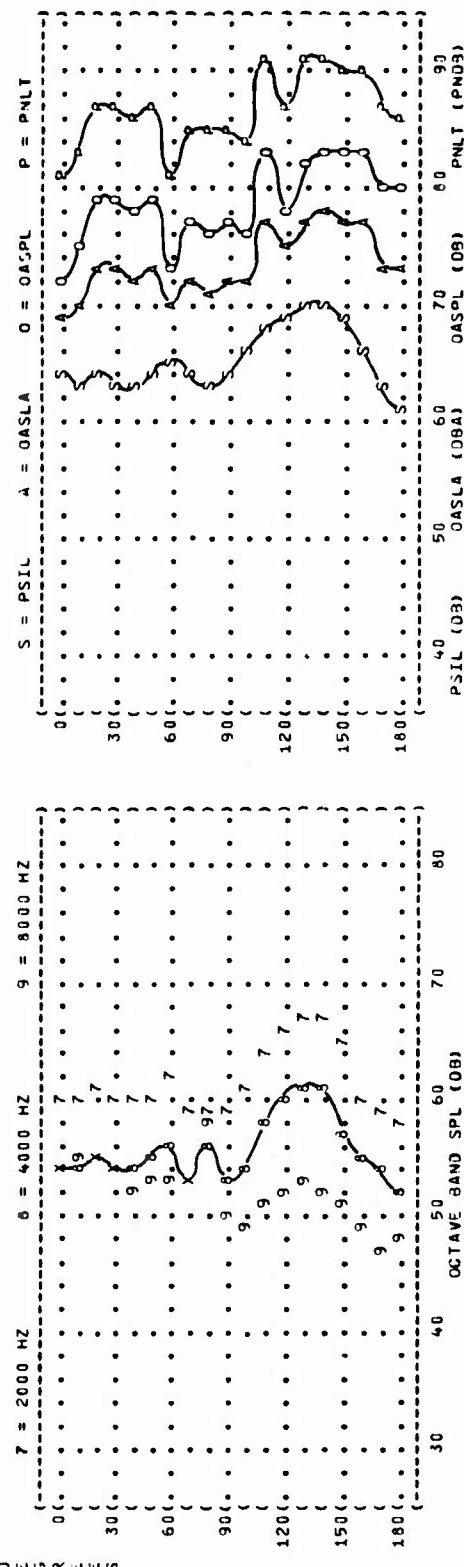
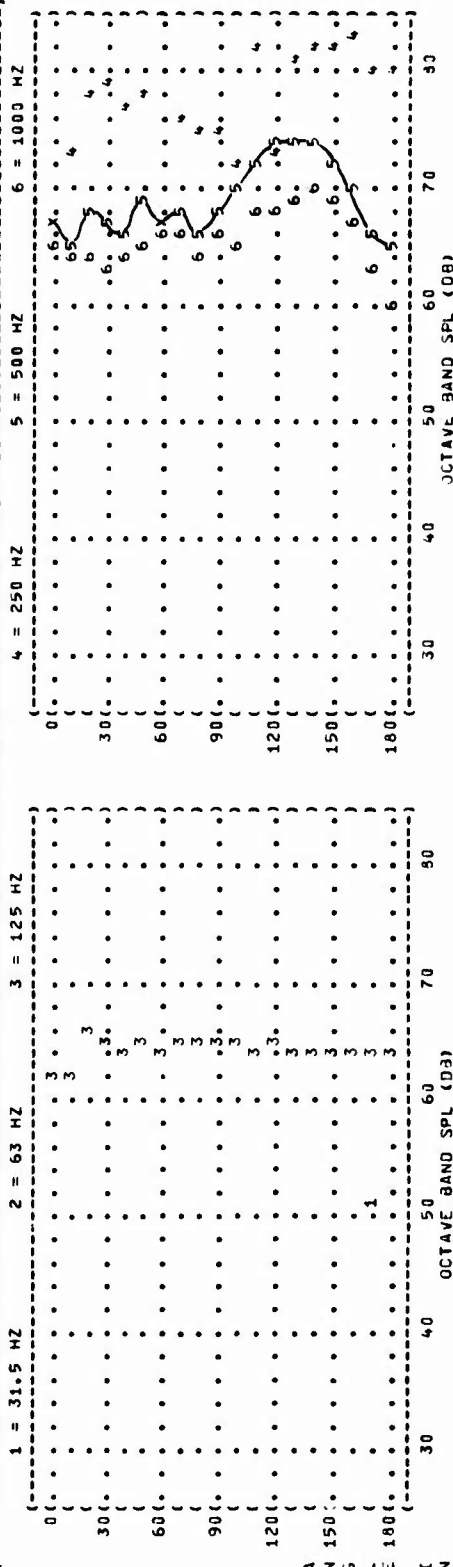
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																	IDENTIFICATION:	
5																	OMEGA 1.4	
1/3 OCTAVE BAND																	TEST 75-002-029	
DISTANCE = 75 METERS																	RUN 05	
NOISE SOURCE/SUBJECT:																		
(F-15A AIRCRAFT																		
(F100-PW-100(1) ENGINE																	13 C	
(FAR FIELD NOISE																	BAR PRESS = .703 M HG	
																	REL HUMID = 26 %	
																	PAGE 2	
FREQ																		
((HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170 180
((25	76	77	78	79	79	77	79	81	82	83	85	84	88	93	96	100	101	
((31.5	77	77	79	80	80	80	81	84	85	86	87	87	90	98	101	104	104	
((40	80	80	80	82	82	83	83	84	85	86	87	88	91	94	100	105	107	105
((50	81	80	81	83	82	83	85	86	88	88	89	91	97	102	106	111	106	
((63	82	83	84	85	85	85	86	86	87	90	92	94	99	106	111	113	107	
((80	85	85	87	86	87	86	88	89	90	92	94	95	100	107	114	116	110	
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((160	94	94	95	92	93	92	93	93	96	98	101	104	112	118	120	121	112	
((200	95	94	94	93	93	93	94	94	95	98	101	104	110	117	120	118	110	
((250	92	93	94	94	94	93	93	94	96	97	101	104	111	118	121	117	109	
((315	94	95	97	94	93	92	92	94	96	97	101	105	111	119	118	118	109	
((400	96	97	97	95	93	91	90	92	96	95	102	104	111	115	117	117	107	
((500	99	99	99	96	92	90	89	91	95	94	99	102	109	114	115	114	105	
((630	99	99	101	96	94	93	91	92	95	93	99	100	108	112	115	113	102	
((800	97	97	99	97	94	95	92	93	95	92	97	98	104	111	113	111	98	
((1000	93	93	95	94	91	94	95	95	95	92	96	97	102	110	112	109	95	
((1250	90	92	93	91	89	91	93	94	96	92	96	97	99	110	111	107	95	
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((2500	83	86	88	88	87	89	90	91	92	91	96	95	94	107	107	101	89	
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((5000	74	76	78	78	78	80	81	83	86	86	91	90	89	104	103	97	77	
((6300	71	73	75	75	75	77	78	80	81	81	86	86	84	102	101	95	71	
((8000	68	70	71	72	71	73	75	77	78	78	83	84	81	99	100	94	69	
((10000	62	63	65	65	65	67	68	70	73	73	78	80	77	99	100	91	67	
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LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																		

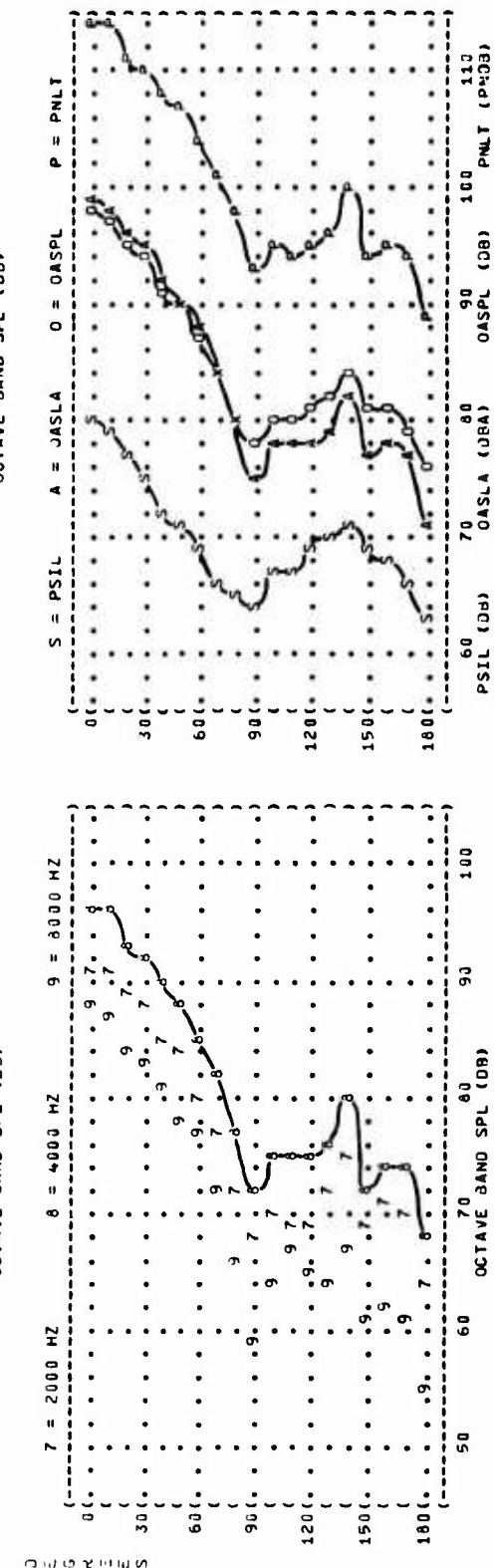
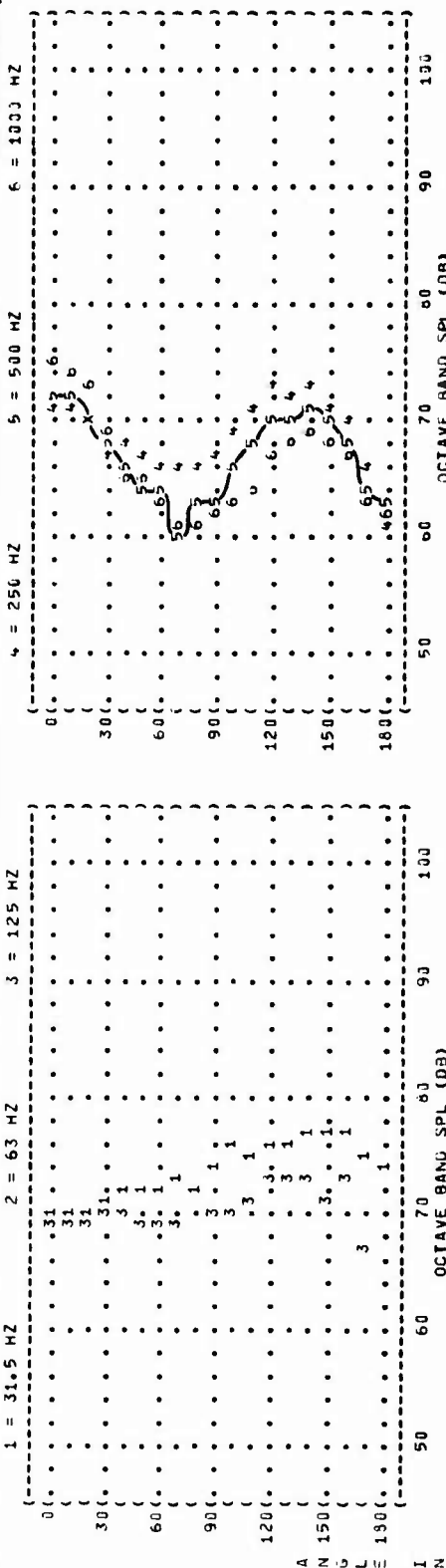
TABLE: MEASURED SOUND PRESSURE LEVEL (03)																			IDENTIFICATION:	
1/3 OCTAVE BAND																				
DISTANCE = 75 METERS																			OMEGA 1.4	
5																			TEST 75-002-029	
NOISE SOURCE/SUBJECT:																			RUN 06	
OPERATION:																				
AFTERBURNER, ZONE 5																				
90% RPM																			TEMP = 13 C	
F100-PW-100(1) ENGINE																			BAR PRESS = .703 M HG	
SINGLE ENGINE																			REL HUMID = 26 %	
FREE FLOW																			07 MAY 75	
F-15A AIRCRAFT																			PAGE 2	
FAR FIELD NOISE																				
FREQ (HZ)																			ANGLE (DEGREES)	
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
25	90	90	81	90	89	92	92	94	94	92	92	97	111	107	109	107	108			
31.5	89	90	90	90	92	93	93	94	96	96	95	100	105	109	113	107	108			
40	93	93	94	95	95	95	96	96	97	97	98	102	109	113	116	110	109			
50	94	93	93	95	96	95	96	96	98	98	99	104	110	116	118	109	111			
63	96	95	96	96	96	97	96	98	100	101	101	107	114	120	120	106	109			
80	97	98	98	98	99	98	97	100	102	104	104	111	119	123	120	112	112			
100	99	100	95	100	100	100	101	102	104	105	107	112	119	125	121	113	112			
125	100	101	102	100	101	101	102	104	106	107	112	118	124	124	122	113	112			
160	101	102	101	101	101	102	103	104	107	108	112	118	126	125	120	113	113			
200	101	103	102	102	103	102	103	104	107	107	111	118	125	124	119	110	110			
250	102	103	103	103	103	102	103	104	107	107	112	120	124	122	117	109	110			
315	99	100	103	102	102	102	102	105	107	107	112	120	124	122	115	108	109			
400	99	102	103	102	101	99	100	103	106	106	112	117	123	120	115	108	109			
500	98	100	101	100	100	98	99	101	107	106	112	115	121	118	113	106	107			
630	99	101	103	101	99	99	100	102	106	106	112	113	119	116	112	106	105			
800	97	99	101	99	96	99	99	101	105	106	111	112	117	115	110	103	104			
1000	95	98	99	97	95	98	100	101	106	105	111	112	117	114	109	102	103			
1250	93	96	97	97	94	97	99	101	105	105	110	110	113	113	108	101	200			
1600	92	97	98	97	94	97	99	101	105	106	111	111	114	114	109	101	200			
2000	92	95	96	97	96	98	100	102	104	105	110	109	112	112	107	99	97			
2500	83	91	92	94	93	96	98	99	103	104	109	108	111	111	107	97	95			
3150	85	88	90	91	91	94	97	98	100	103	108	107	110	109	104	95	92			
4000	84	88	89	91	91	94	97	99	101	104	109	108	112	111	105	96	92			
5000	81	84	85	87	87	90	93	94	97	100	105	105	110	109	102	92	87			
6300	77	80	81	82	83	87	89	91	93	97	103	102	109	107	99	88	83			
8000	72	76	77	79	79	82	86	88	91	97	104	103	108	107	100	88	81			
10000	67	70	72	73	74	78	82	85	87	93	100	99	106	106	96	85	76			
OVERALL	111	112	113	112	112	112	113	115	118	119	123	127	133	133	130	122	122			
LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																				

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

(FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS
 (3 DISTANCE = 100 METERS
 (NOISE SOURCE/SUBJECT: (OPERATIONS:
 (F-15A AIRCRAFT (ENGINES OFF
 (F100-PM-100(1) ENGINE (JET FUEL STARTER ON
 (FAR FIELD NOISE (FREE FLOW
 (IDENTIFICATION:
 () OMEGA 1.4
 () TEST 75-002-052
 () RUN 01
 () TEMP = 15 C
 () BAR PRESS = .760 M HG
 () REL HUMID = 70 %
 () 13 MAY 75
 () PAGE 4



(FIGURE: NORMALIZED FARFIELD NOISE LEVELS
 (3 DISTANCE = 100 METERS
 (NOISE SOURCE/SUBJECT: (OPERATION: (IDLE POWER
 (F-15A AIRCRAFT (60% RPM
 (F100-PW-100(1) ENGINE (BOTH ENGINES
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (PAGE 5
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 75-002-329
 (RUN 31
 (07 MAY 75
 (



IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-029
 RUN 02
 07 MAY 75
 PAGE 6

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

NOISE SOURCE/SUBJECT:
 F-15A AIRCRAFT
 F100-PH-103(1) ENGINE
 FAR FIELD NOISE

OPERATION:
 60% RPM
 BOTH ENGINES
 FREE FLOW

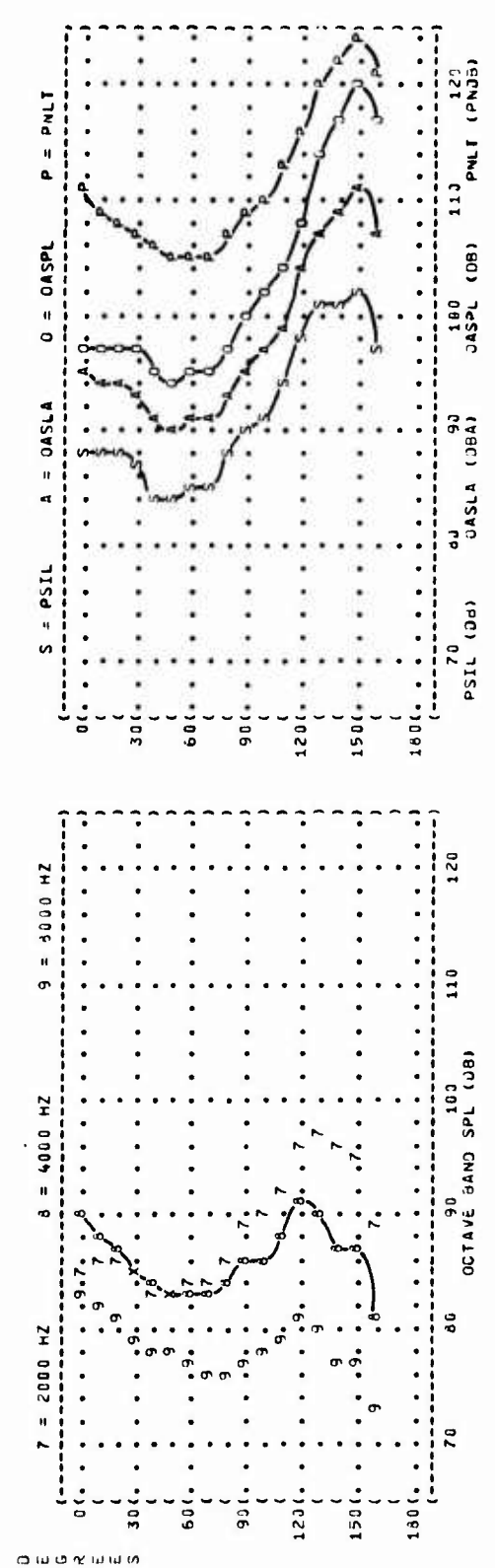
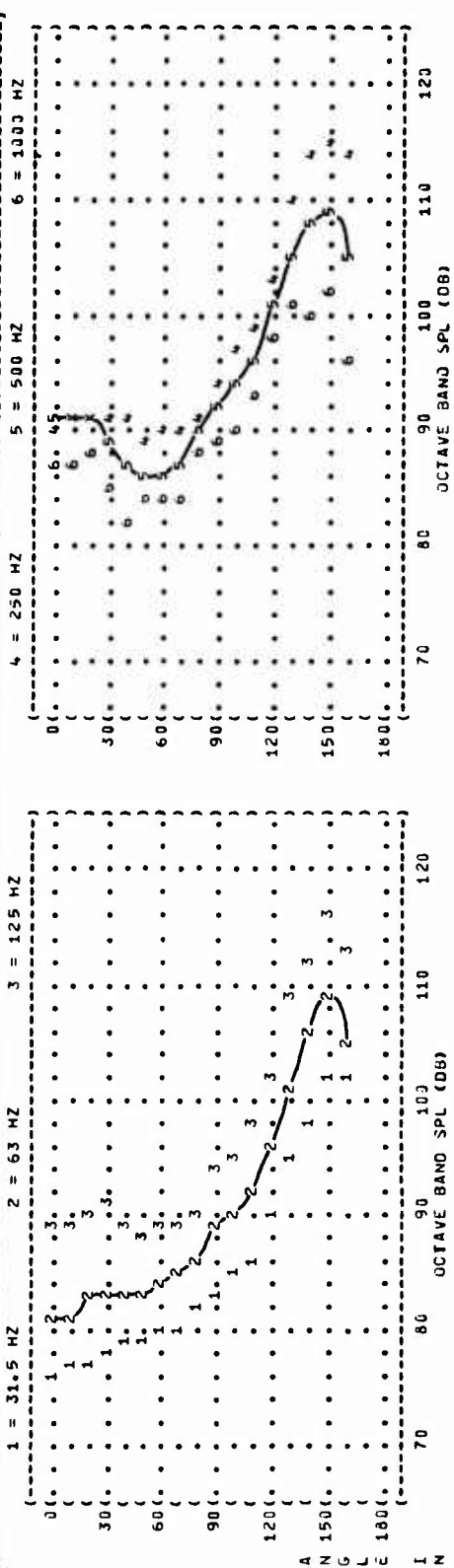


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

F-15A AIRCRAFT

F100-PW-100(1) ENGINE

FAR FIELD NOISE

OPERATION:

MILITARY POWER

90% RPM

BOTH ENGINES

FREE FLOW

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4

TEST 75-302-029

RUN 03

07 MAY 75

PAGE 5

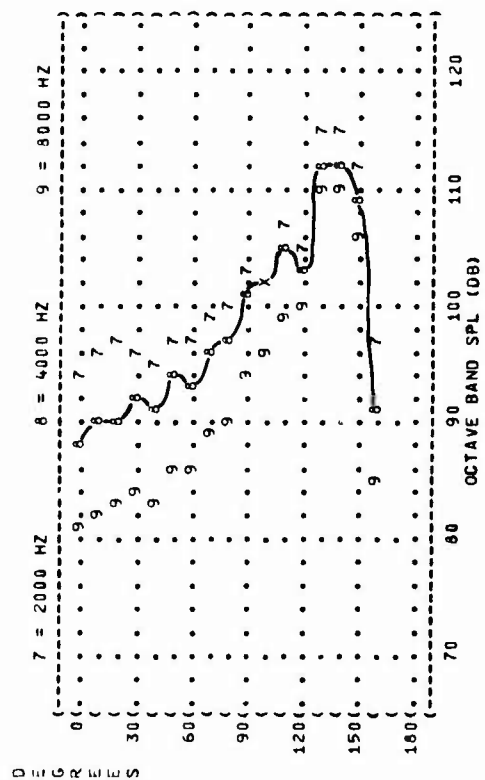
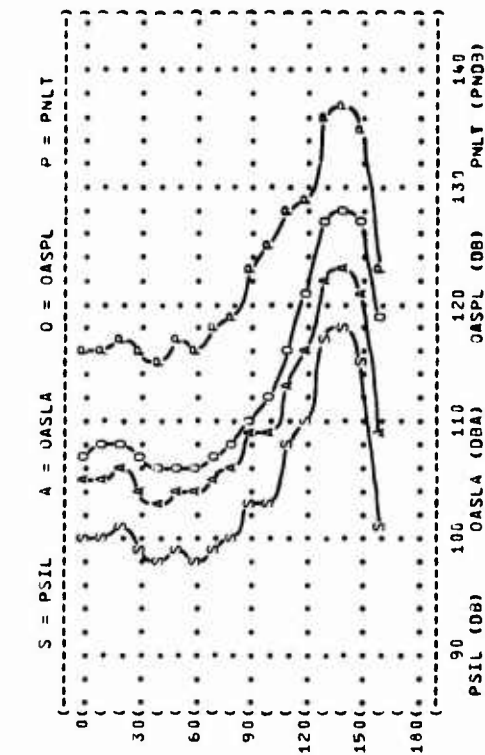
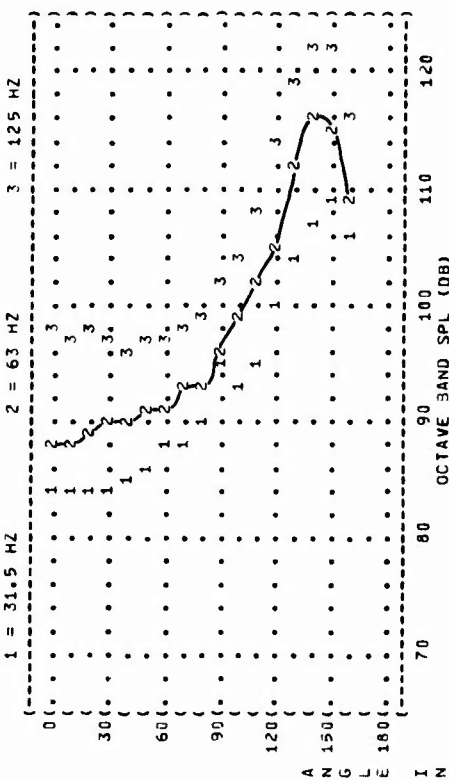
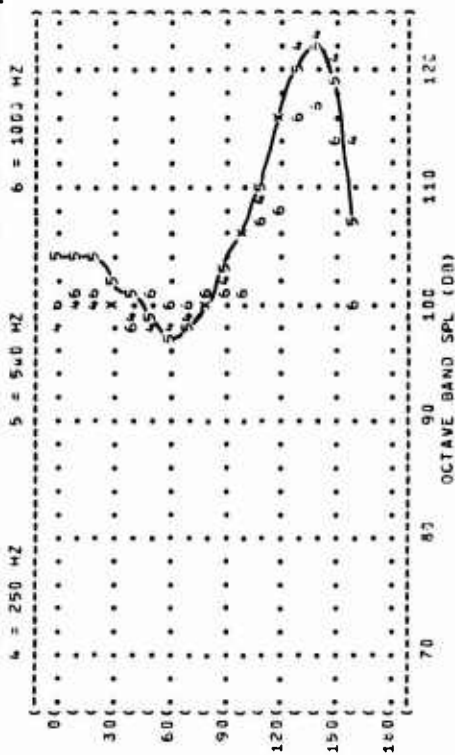


FIGURE 1: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

OPERATION:

F-15A AIRCRAFT
 F100-PW-100(1) ENGINE
 FAR FIELD NOISE

80% RPM
 SINGLE ENGINE
 FREE FLOW

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .750 M HG
 REL HUMID = 70 %

IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-029
 RUN 04
 07 MAY 75
 PAGE 6

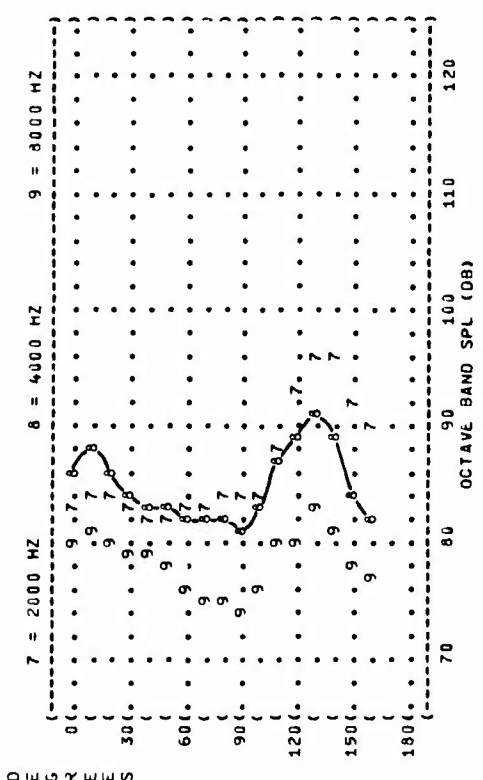
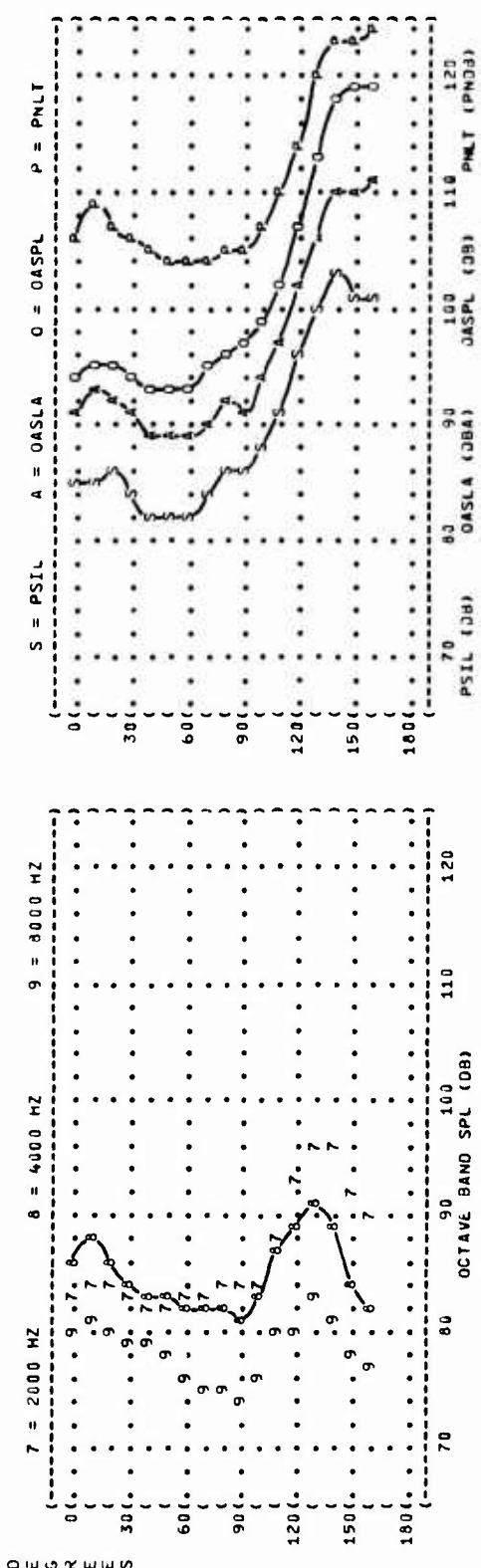
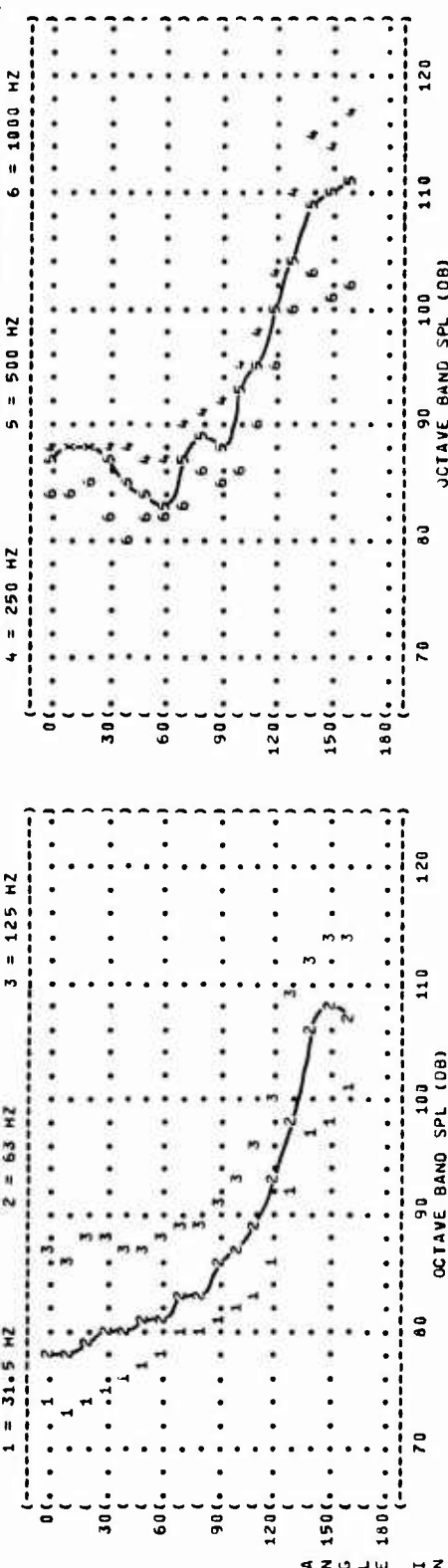


FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

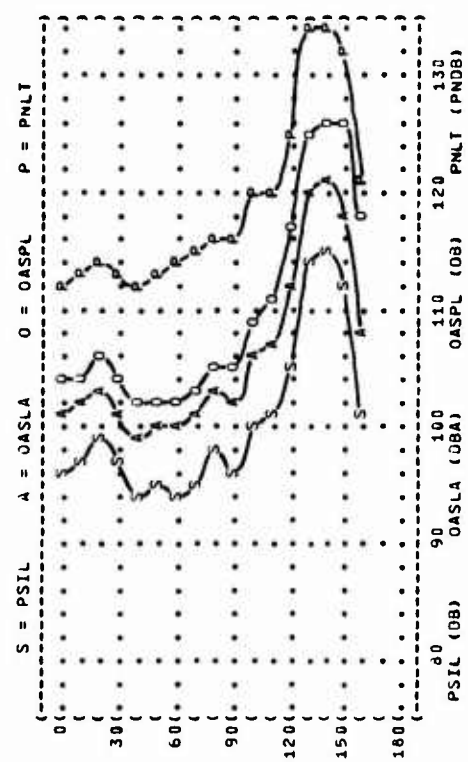
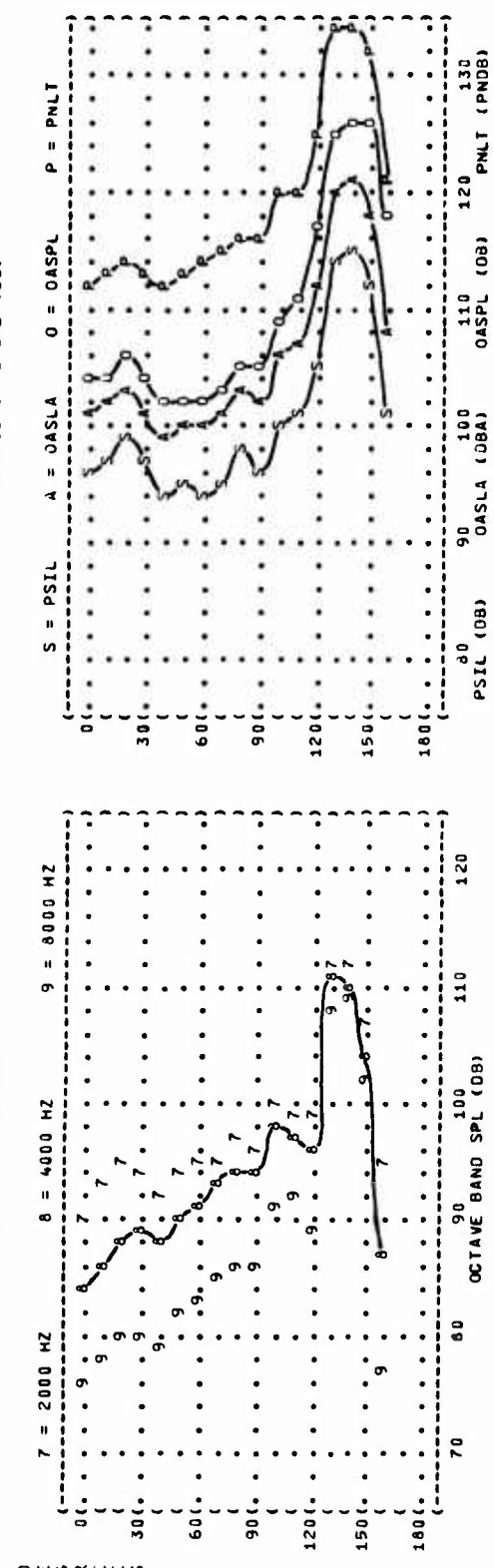
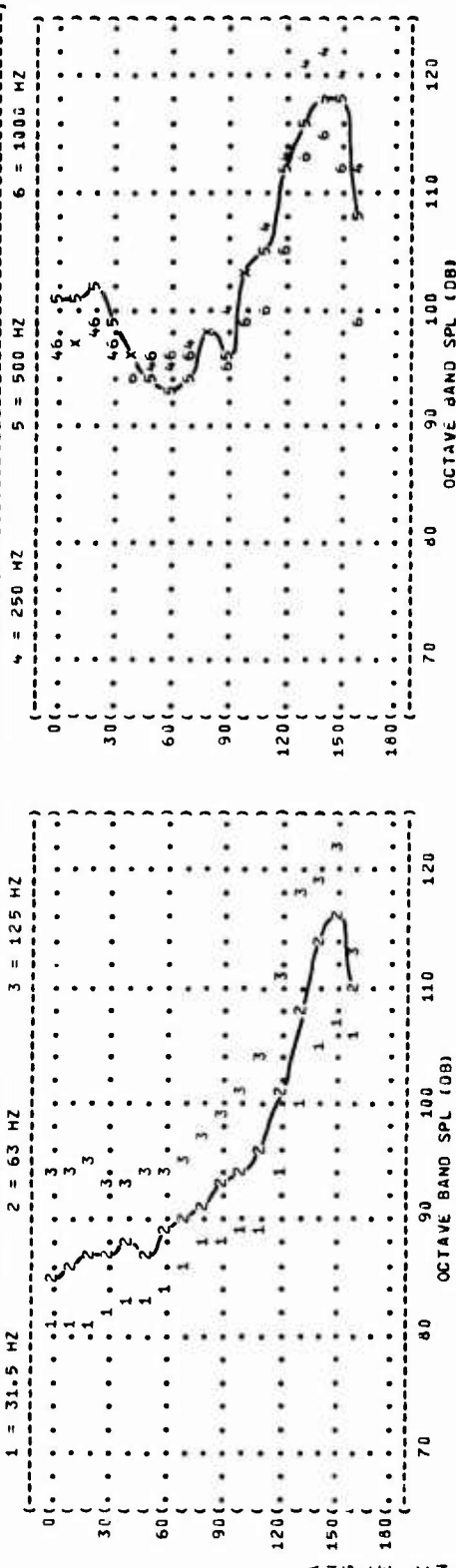
NOISE SOURCE/SUBJECT:

F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

OPERATIONS:
MILITARY POWER
90% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-029
RUN 05
07 MAY 75
PAGE 5



IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-029
 RUN 06
 07 MAY 75
 PAGE 6

NOISE SOURCE/SUBJECT:
 F-15A AIRCRAFT
 F100-PN-100(1) ENGINE
 FAR FIELD NOISE

OPERATION:
 AFTERBURNER, ZONE 5
 90% RPM
 SINGLE ENGINE
 FREE FLOW

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

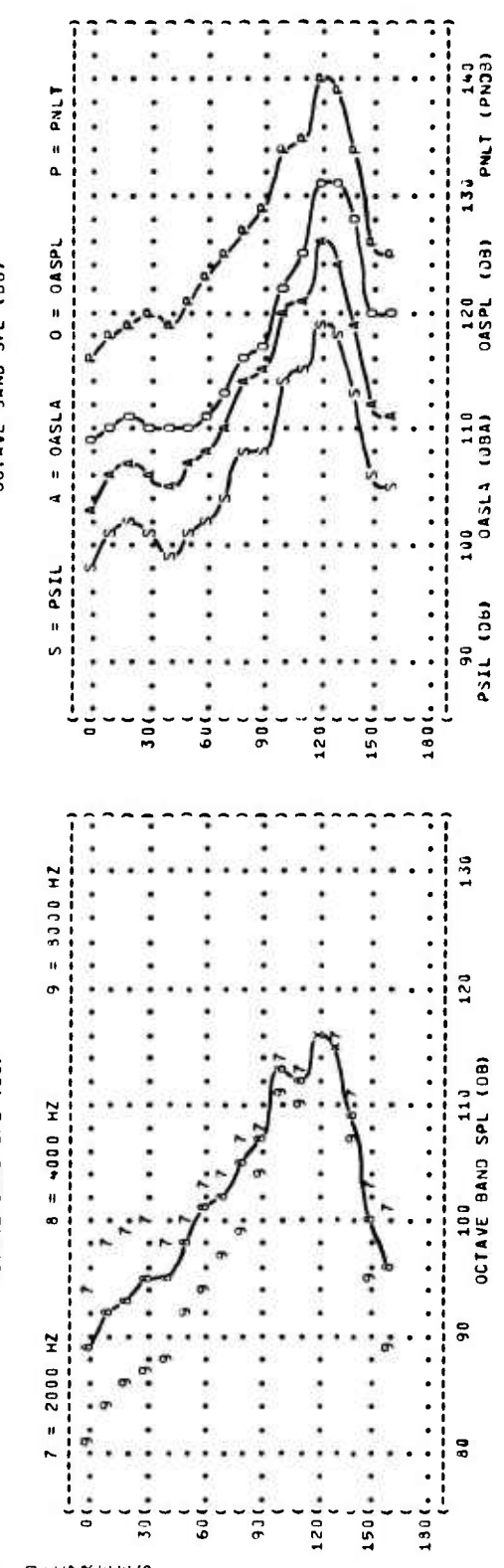
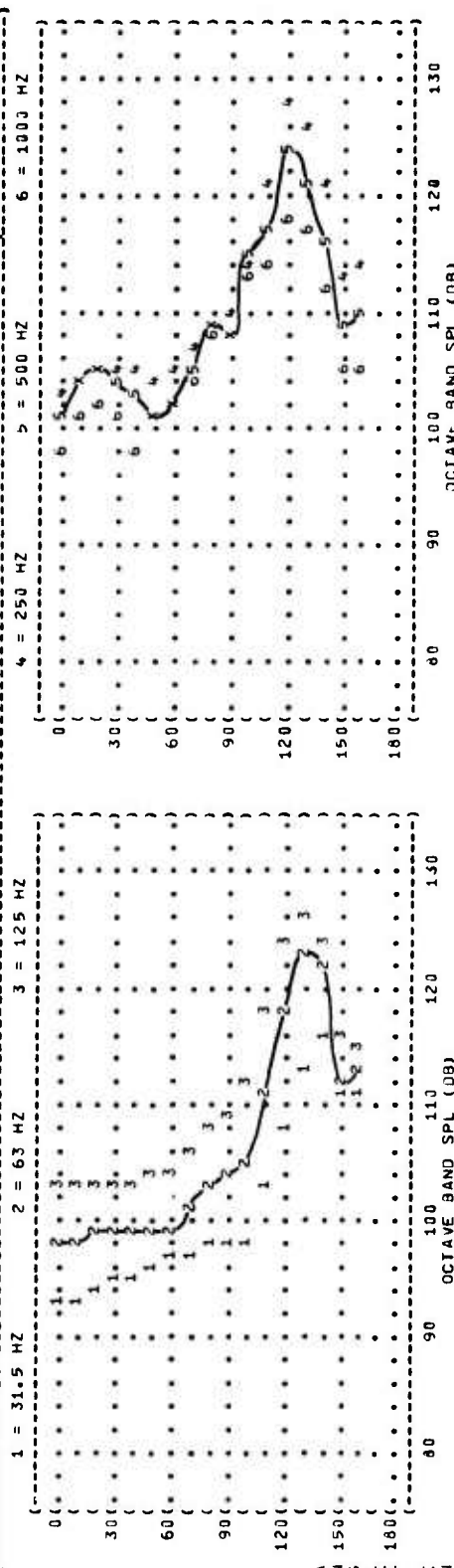


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-029

RUN 01

07 MAY 75

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATIONS:

IDLE POWER

60% RPM

BOTH ENGINES

FREE FLOW

METEOROLOGY:

TEMP = 13 C

BAR PRESS = .703 M HG

REL HUMID = 26 %

3 = 1/3 OCTAVE

1 = OCTAVE

0 = OVERALL



((FIGURE: ACOUSTIC POWER LEVEL (PWL)))
 ((4))
 ((NOISE SOURCE/SUBJECT:))
 ((F-15A AIRCRAFT))
 ((F100-PW-100(1) ENGINE))
 ((FAR FIELD NOISE))
 ((OPERATION:))
 ((80% RPM))
 ((BOTH ENGINES))
 ((FREE FLOW))
 ((METEOROLOGY:))
 ((TEMP = 13 C))
 ((BAR PRESS = .703 H HG))
 ((REL HUMID = 26 %))
 ((IDENTIFICATION:))
 ((OMEGA 1.4))
 ((TEST 75-002-029))
 ((RUN 02))
 ((07 MAY 75))
 ((PAGE 3))

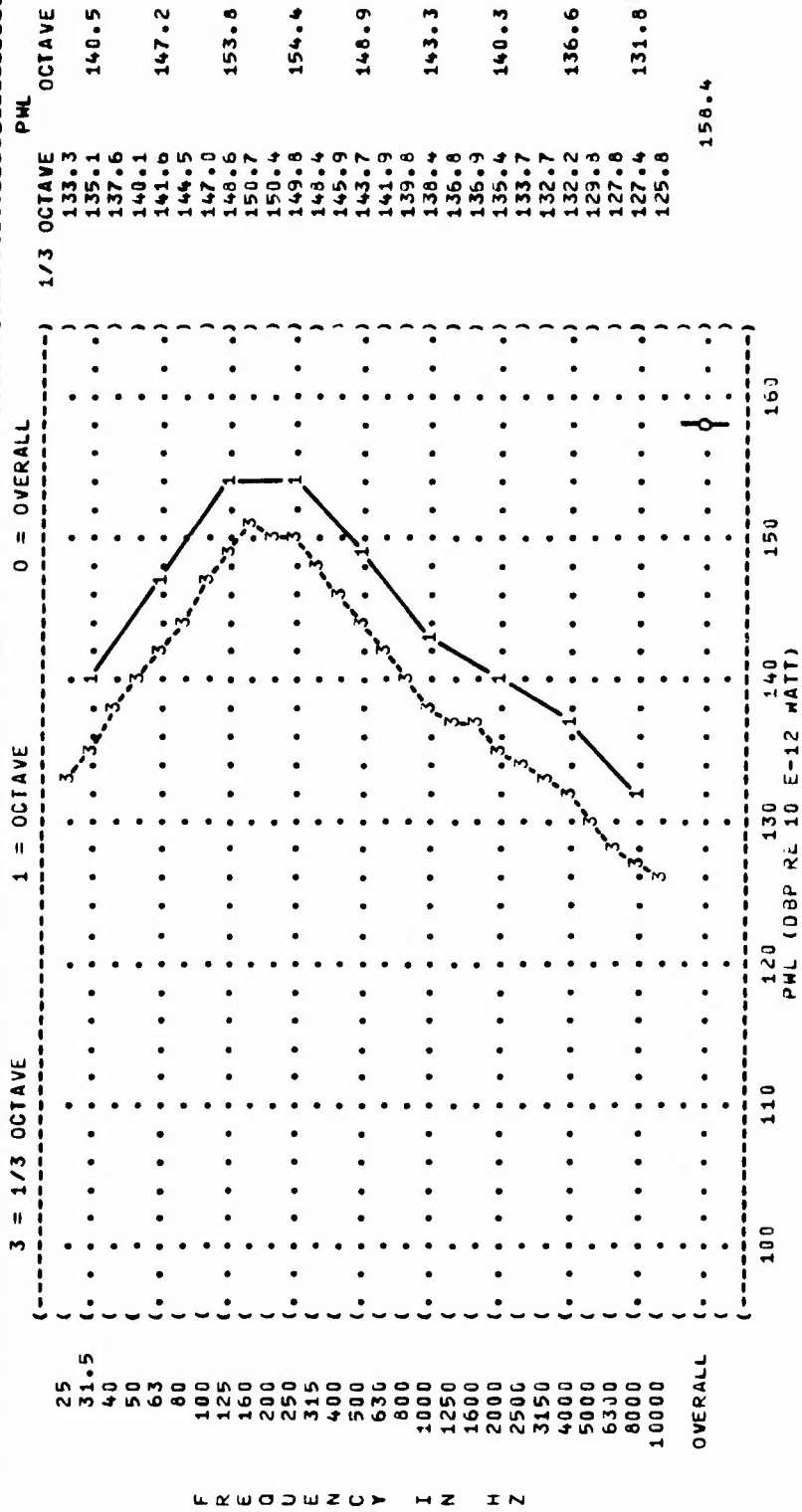


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-029

RUN 03

07 MAY 75

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATIONS:

MILITARY POWER

90% RPM

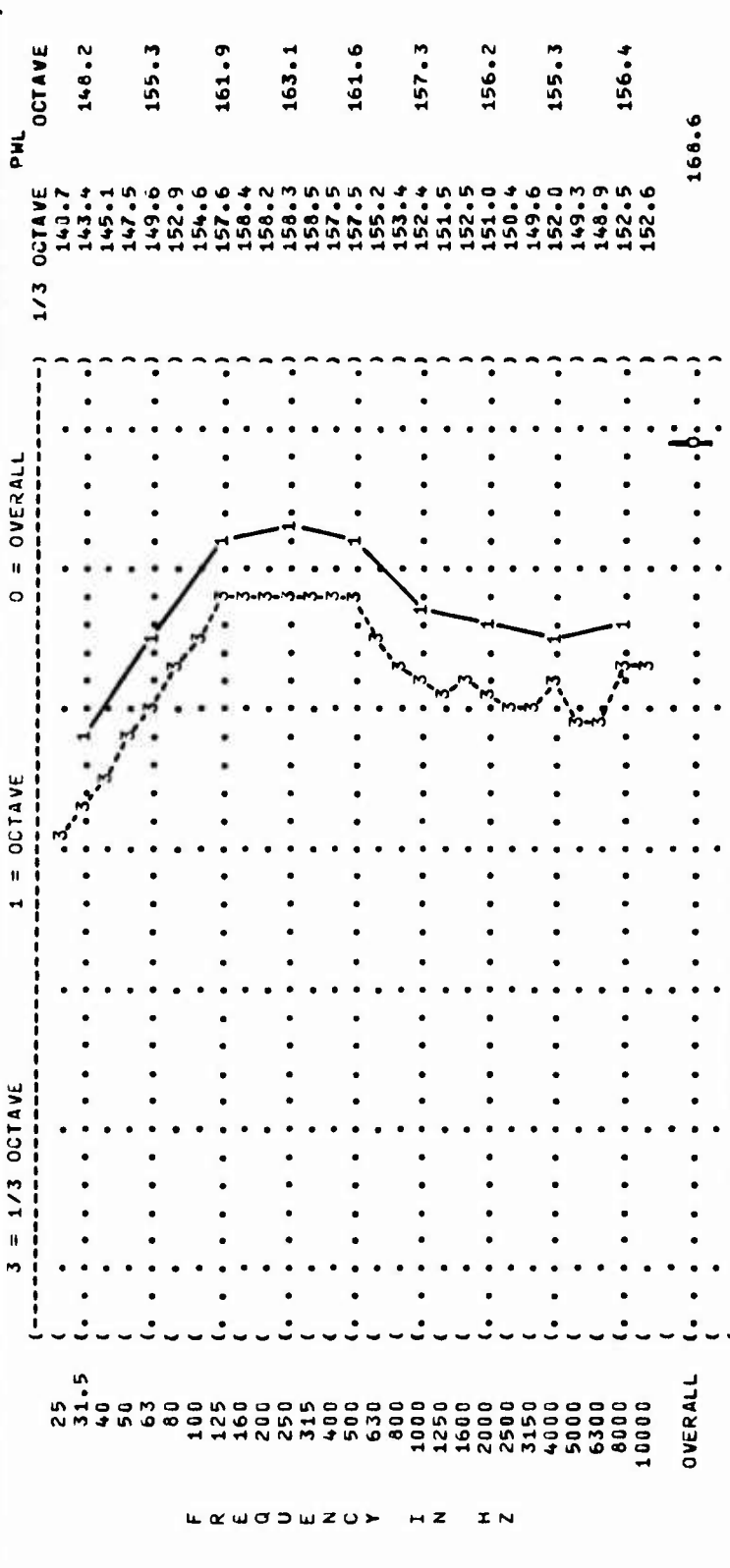
BOTH ENGINES

FREE FLOW

TEMP = 13 C

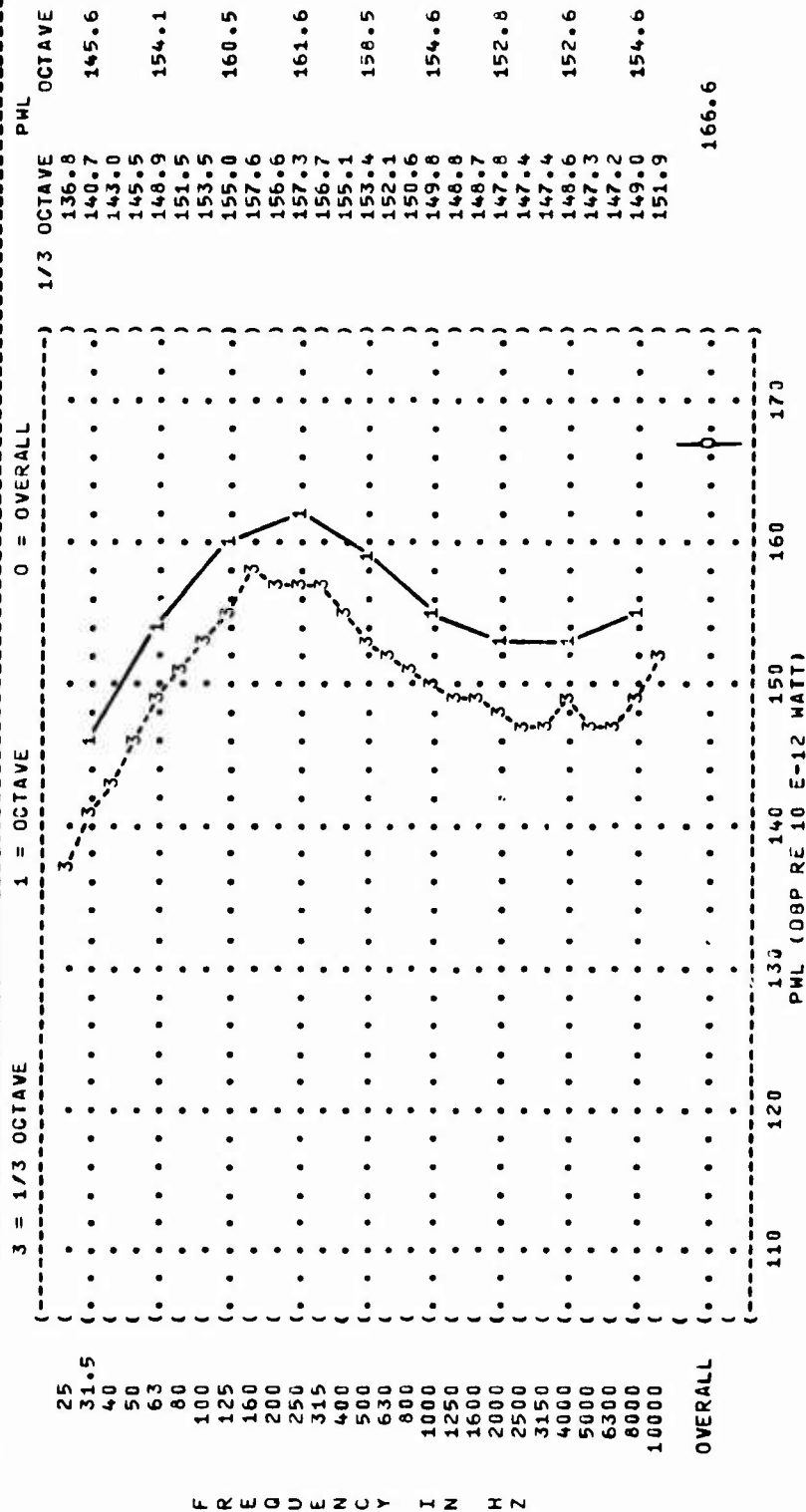
BAR PRESS = .703 M HG

REL HUMID = 26 %



1

((FIGURE: ACOUSTIC POWER LEVEL (PWL)))
 ((4))
 ((NOISE SOURCE/SUBJECT:))
 ((F-15A AIRCRAFT))
 ((F100-PW-100(1) ENGINE))
 ((FAR FIELD NOISE))
 ((OPERATION:))
 ((MILITARY POWER))
 ((90% RPM))
 ((SINGLE ENGINE))
 ((FREE FLOW))
 ((METEOROLOGY:))
 ((TEMP = 13 C))
 ((BAR PRESS = .703 M HG))
 ((REL HUMID = 26 %))
 ((IDENTIFICATION:))
 ((OMEGA 1.4))
 ((TEST 75-002-029))
 ((RUN 05))
 ((07 MAY 75))
 ((PAGE 3))



(FIGURE: ACOUSTIC POWER LEVEL (PWL))
 (4)
 (NOISE SOURCE/SUBJECT:)
 (F-15A AIRCRAFT)
 (F100-PW-100(1) ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (AFTERBURNER, ZONE 5)
 (90% RPM)
 (SINGLE ENGINE)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 13 C)
 (BAR PRESS = .703 M HG)
 (REL HUMID = 26 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-029)
 (RUN 06)
 (07 MAY 75)
 (PAGE 3)

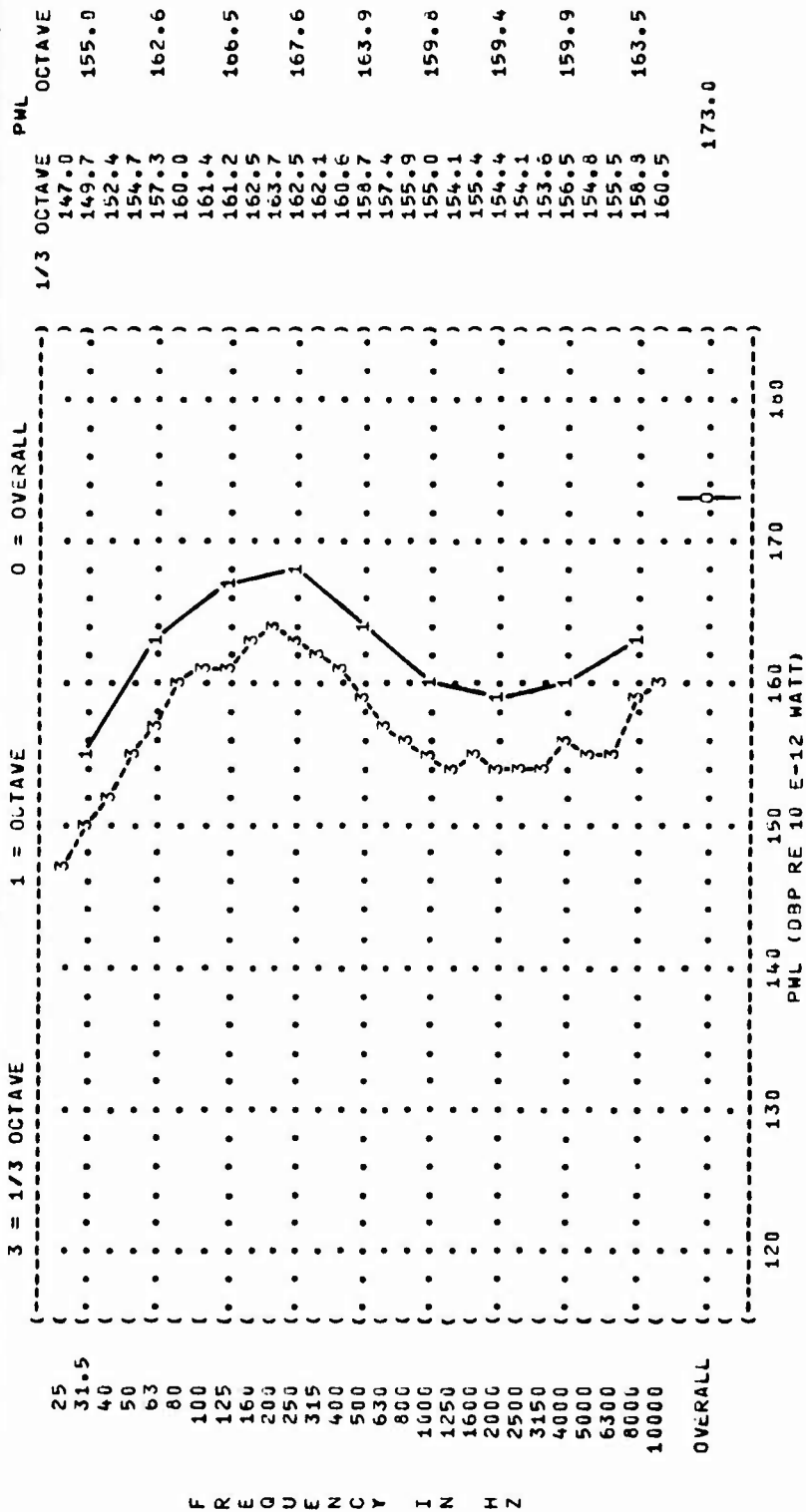


TABLE: DIRECTIVITY INDEX (DB)																
IDENTIFICATION:																
6																
NOISE SOURCE/SUBJECT:																
F-15A AIRCRAFT																
F100-PW-100(1) ENGINE																
FAR FIELD NOISE																
FREQ (HZ)																
ANGLE (DEGREES)																
1/3 OCTAVE																
25	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4
31.5	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6
40	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
50	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
63	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
80	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
100	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
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160	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
200	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
250	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
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400	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
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8000	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
10000	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
OCTAVE																
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63	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
125	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
250	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
500	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
1000	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
2000	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
4000	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
8000	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
10000	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
OVERALL																
10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

TABLE: DIRECTIVITY INDEX (DB)																
IDENTIFICATION:																
6																
NOISE SOURCE/SUBJECT:																
F-15A AIRCRAFT																
F100-PW-100(1) ENGINE																
FAR FIELD NOISE																
OPERATION:																
80% RPM																
BOTH ENGINES																
FREE FLOW																
METEOROLOGY:																
TEMP = 13 C																
BAR PRESS = .703 M HG																
REL HUMID = 26 %																
PAGE 4																
TEST 75-002-029																
RUN 02																
OMEGA 1.4																
FREQ (HZ)																
ANGLE (DEGREES)																
1/3 OCTAVE																
25	-16	-16	-14	-13	-13	-13	-11	-10	-8	-7	-3	2	4	9	10	
31.5	-16	-15	-17	-16	-14	-13	-13	-12	-10	-8	-1	2	5	9	10	
40	-17	-16	-15	-14	-14	-13	-14	-12	-11	-9	-3	2	6	9	9	
50	-19	-19	-17	-16	-17	-16	-15	-15	-13	-10	-6	2	6	10	8	
63	-19	-19	-17	-16	-16	-16	-15	-14	-10	-8	-2	3	8	9	5	
80	-18	-19	-16	-17	-16	-16	-16	-15	-11	-9	-4	1	7	10	6	
100	-17	-17	-16	-15	-17	-17	-17	-16	-12	-8	-3	3	5	10	7	
125	-16	-15	-14	-13	-15	-16	-15	-15	-11	-8	-4	5	7	9	7	
160	-18	-18	-17	-17	-18	-19	-18	-18	-12	-8	-4	4	8	6	8	
200	-17	-17	-16	-17	-18	-18	-17	-17	-10	-8	-4	2	7	9	8	
250	-15	-15	-15	-15	-15	-18	-17	-17	-14	-8	-4	4	7	9	8	
315	-16	-15	-14	-15	-15	-17	-16	-15	-12	-8	-1	4	4	10	5	
400	-13	-12	-11	-13	-14	-16	-16	-15	-10	-6	-0	4	8	8	5	
500	-9	-9	-10	-11	-13	-15	-14	-11	-9	-5	1	4	6	9	4	
630	-8	-8	-8	-9	-13	-13	-14	-12	-8	-5	1	4	6	9	3	
800	-9	-9	-7	-10	-13	-12	-12	-11	-7	-6	2	5	5	8	2	
1000	-8	-8	-8	-10	-13	-11	-11	-11	-6	-3	3	6	5	7	-0	
1250	-7	-7	-7	-9	-12	-10	-9	-10	-5	-1	3	6	5	6	-1	
1600	-7	-6	-6	-7	-11	-10	-9	-9	-3	0	4	6	5	4	-2	
2000	-6	-6	-5	-6	-8	-7	-7	-7	-2	1	5	5	4	3	-3	
2500	-5	-5	-5	-5	-7	-7	-7	-6	-3	-2	5	5	4	2	-4	
3150	-2	-3	-3	-4	-5	-5	-5	-5	-3	-1	2	4	2	1	-5	
4000	5	2	1	-0	-2	-3	-3	-3	-2	-1	4	3	1	-0	-6	
5000	6	4	3	2	-0	-1	-3	-4	-1	0	1	3	-1	-1	-7	
6300	5	4	3	2	1	0	-1	-2	-0	1	3	2	-1	-1	-8	
8000	4	3	2	0	-1	-1	-2	-2	-1	0	1	3	-1	-0	-6	
10000	5	3	2	-0	-1	-2	-2	-3	-2	1	4	3	0	0	-0	
OCTAVE																
31.5	-17	-16	-15	-14	-14	-13	-13	-12	-10	-8	-2	2	5	9	9	
63	-18	-19	-17	-17	-16	-16	-16	-15	-13	-9	-6	2	7	10	6	
125	-17	-17	-16	-15	-17	-18	-17	-17	-12	-11	-4	4	6	10	7	
250	-16	-16	-15	-15	-16	-18	-17	-16	-13	-9	-3	4	7	9	7	
500	-10	-10	-10	-12	-13	-15	-15	-14	-11	-9	1	4	7	9	4	
1000	-8	-8	-7	-10	-13	-11	-11	-11	-6	-5	2	6	5	7	1	
2000	-6	-6	-6	-6	-9	-8	-8	-8	-3	-2	1	5	6	4	3	
4000	3	1	-0	-1	-3	-4	-4	-4	-3	-2	4	3	1	0	-5	
8000	5	3	2	1	0	-0	-1	-2	-2	-0	1	3	2	-1	-6	
OVERALL																
	-14	-14	-13	-14	-15	-16	-16	-15	-11	-9	-2	4	7	9	7	

TABLE: DIRECTIVITY INDEX (DB)																	
IDENTIFICATION:																	
6																	
NOISE SOURCE/SUBJECT:																	
OPERATION:																	
MILITARY POWER																	
90% RPM																	
ENGINE																	
BOTH ENGINES																	
FREE FLOW																	
F-15A AIRCRAFT																	
F100-PW-100(1)																	
ENGINE																	
FAR FIELD NOISE																	
TEMP = 13 C																	
BAR PRESS = .703 M HG																	
REL HUMID = 26 %																	
PAGE 4																	
FREQ																	
(HZ)																	
ANGLE (DEGREES)																	
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																	
1/3 OCTAVE																	
25	-15	-15	-15	-15	-15	-14	-13	-12	-11	-2	-6	-5	-1	3	6	9	6
31.5	-17	-17	-17	-17	-17	-16	-16	-14	-12	-6	-5	-6	1	3	6	8	7
40	-16	-16	-16	-16	-16	-15	-15	-14	-12	-9	-8	-5	-1	5	7	8	5
50	-19	-19	-19	-19	-19	-17	-16	-15	-14	-13	-9	-7	-3	4	8	9	3
63	-19	-20	-18	-18	-18	-17	-16	-15	-14	-11	-8	-5	-2	4	9	8	2
80	-19	-19	-18	-18	-18	-17	-16	-15	-14	-11	-8	-6	-2	5	9	7	0
100	-18	-18	-17	-17	-17	-16	-15	-14	-13	-11	-9	-7	-2	4	9	8	2
125	-17	-16	-16	-16	-16	-15	-14	-13	-12	-11	-9	-7	-2	4	9	8	2
160	-16	-16	-15	-15	-15	-14	-13	-12	-11	-10	-9	-5	1	6	7	7	2
200	-17	-16	-16	-16	-16	-15	-14	-13	-12	-11	-9	-5	1	8	8	5	-0
250	-17	-16	-16	-16	-16	-15	-14	-13	-12	-11	-9	-5	1	7	8	5	-2
315	-16	-14	-14	-14	-14	-13	-12	-11	-10	-9	-7	-5	1	7	7	7	-4
400	-12	-13	-13	-13	-13	-12	-11	-10	-9	-8	-6	-4	2	5	8	7	-5
500	-9	-9	-10	-10	-10	-9	-8	-7	-6	-5	-4	-3	3	7	7	4	-8
630	-7	-7	-7	-7	-7	-6	-5	-4	-3	-2	-1	0	1	6	8	6	-8
800	-7	-7	-7	-7	-7	-6	-5	-4	-3	-2	-1	0	1	6	8	6	-9
1000	-9	-9	-9	-10	-10	-8	-8	-8	-8	-7	-6	-5	-1	7	8	5	-9
1250	-11	-10	-9	-11	-11	-10	-9	-8	-7	-6	-5	-4	-1	7	8	5	-8
1600	-13	-10	-10	-12	-11	-11	-11	-9	-8	-5	-6	-1	-2	5	7	4	-10
2000	-13	-11	-10	-10	-11	-9	-9	-8	-6	-4	-5	-1	-1	7	7	4	-10
2500	-15	-13	-13	-12	-12	-11	-11	-9	-7	-4	-4	0	-2	7	7	4	-11
3150	-16	-14	-14	-12	-12	-10	-11	-8	-8	-3	-4	-0	-2	8	7	4	-13
4000	-17	-15	-13	-13	-14	-12	-12	-10	-8	-4	-3	0	-2	7	7	4	-14
5000	-18	-17	-16	-14	-15	-12	-13	-10	-9	-6	-3	-1	-1	8	7	3	-14
6300	-18	-18	-17	-16	-16	-13	-14	-11	-9	-6	-4	-2	-2	7	8	3	-15
8000	-23	-22	-22	-20	-21	-19	-19	-16	-14	-9	-7	-4	-3	8	8	3	-18
10000	-23	-23	-22	-22	-22	-19	-20	-17	-15	-11	-8	-5	-3	9	9	4	-19
OCTAVE																	
31.5	-16	-16	-17	-17	-15	-15	-15	-12	-10	-6	-7	-5	-0	4	7	8	6
63	-19	-19	-18	-18	-17	-17	-17	-16	-15	-12	-9	-6	-2	5	9	7	1
125	-16	-17	-16	-17	-18	-17	-17	-17	-15	-12	-10	-6	-0	5	8	8	2
250	-17	-15	-15	-16	-16	-17	-17	-16	-15	-14	-9	-6	1	7	8	6	-2
500	-9	-9	-9	-12	-13	-15	-15	-17	-15	-10	-8	-4	2	6	8	6	-7
1000	-8	-8	-8	-9	-11	-8	-8	-9	-8	-8	-2	-1	-1	7	8	5	-9
2000	-14	-11	-10	-11	-12	-10	-11	-11	-9	-7	-4	-5	-2	7	7	4	-10
4000	-17	-15	-13	-13	-14	-11	-11	-9	-8	-4	-3	-0	-2	7	7	4	-14
8000	-20	-20	-19	-18	-18	-15	-15	-16	-13	-12	-8	-6	-3	8	8	3	-17
OVERALL	-13	-12	-12	-14	-15	-14	-15	-15	-13	-10	-8	-4	1	6	8	6	-1

TABLE: DIRECTIVITY INDEX (DB)																	
IDENTIFICATION:																	
6																	
NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY: 13 C																	
F-15A AIRCRAFT (80% RPM) BAR PRESS = .703 M HG																	
F100-PW-100(1) ENGINE (SINGLE ENGINE) REL HUMID = 26 %																	
FAR FIELD NOISE (FREE FLOW)																	
FREQ (HZ) 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190																	
ANGLE (DEGREES)																	
1/3 OCTAVE																	
25	-16	-16	-15	-13	-14	-12	-8	-8	-10	-7	-5	-8	3	2	6	7	9
31.5	-18	-18	-16	-16	-14	-14	-10	-11	-10	-10	-6	-3	3	2	6	7	11
40	-17	-18	-17	-17	-15	-13	-11	-11	-11	-9	-10	-5	1	7	8	11	
50	-19	-21	-20	-17	-16	-15	-13	-14	-10	-10	-11	-6	1	5	9	10	
63	-21	-21	-20	-19	-19	-17	-15	-15	-13	-12	-11	-7	-2	8	9	9	
80	-21	-21	-19	-20	-18	-18	-16	-16	-14	-12	-10	-5	-1	7	10	8	
100	-19	-21	-18	-19	-18	-17	-16	-16	-13	-12	-10	-5	0	6	10	8	
125	-17	-18	-15	-15	-16	-17	-16	-16	-15	-12	-10	-5	3	6	10	8	
160	-19	-20	-19	-20	-20	-19	-17	-17	-14	-12	-9	-5	4	7	8	9	
200	-18	-18	-19	-19	-19	-19	-16	-16	-14	-12	-9	-5	2	9	5	9	
250	-18	-19	-20	-18	-20	-20	-17	-17	-14	-12	-9	-5	2	7	7	10	
315	-20	-19	-18	-18	-20	-20	-17	-16	-16	-11	-9	-3	3	5	9	9	
400	-16	-15	-15	-17	-17	-19	-15	-14	-15	-9	-8	-2	2	7	8	9	
500	-14	-13	-14	-15	-16	-19	-15	-13	-13	-10	-7	-1	3	7	7	9	
630	-12	-12	-11	-14	-16	-17	-14	-12	-12	-9	-7	-1	3	7	7	9	
800	-12	-11	-11	-14	-16	-17	-13	-10	-11	-10	-6	-0	4	8	7	8	
1000	-11	-12	-11	-13	-16	-13	-12	-9	-10	-9	-5	-0	5	8	6	7	
1250	-9	-9	-11	-14	-11	-11	-10	-7	-8	-7	-3	1	8	8	4	4	
1600	-8	-7	-6	-8	-10	-10	-8	-6	-6	-6	-2	2	7	7	3	1	
2000	-7	-6	-5	-6	-8	-7	-6	-5	-5	-5	-1	3	7	6	2	-0	
2500	-6	-5	-5	-5	-6	-7	-5	-5	-5	-4	-0	3	6	5	1	-1	
3150	-3	-2	-3	-4	-5	-4	-4	-4	-4	-3	0	4	6	4	-1	-2	
4000	1	3	1	-1	-2	-3	-4	-4	-4	-3	2	3	5	3	-1	-4	
5000	2	4	3	1	-0	-1	-4	-3	-4	-2	1	2	4	3	-3	-5	
6300	2	4	3	1	0	-1	-3	-3	-5	-2	1	2	4	2	-3	-4	
8000	1	3	1	0	-0	-1	-4	-4	-4	-2	1	2	4	3	-0	-2	
10000	-0	1	0	-2	-3	-5	-5	-5	-6	-3	0	0	5	5	3	3	
OCTAVE																	
31.5	-17	-17	-17	-16	-14	-13	-11	-10	-10	-9	-8	-5	2	6	7	10	
63	-21	-21	-19	-19	-19	-18	-17	-15	-13	-11	-10	-6	-1	7	9	9	
125	-18	-19	-17	-18	-18	-18	-17	-16	-14	-12	-10	-5	4	6	9	8	
250	-18	-19	-19	-19	-19	-20	-17	-16	-15	-12	-9	-4	3	8	7	10	
500	-14	-14	-15	-16	-16	-18	-15	-13	-14	-9	-7	-1	2	7	8	9	
1000	-11	-11	-10	-13	-15	-14	-12	-9	-10	-9	-5	-0	5	8	6	7	
2000	-7	-6	-6	-7	-7	-7	-7	-6	-6	-5	-1	3	7	6	2	-0	
4000	-0	2	0	-1	-2	-1	-4	-4	-4	-3	1	3	5	1	-1	-1	
8000	2	3	2	1	0	-1	-2	-3	-5	-2	1	2	4	3	-0	-2	
OVERALL	-17	-16	-16	-17	-18	-18	-16	-15	-14	-11	-9	-4	3	7	8	9	

TABLE: DIRECTIVITY INDEX (DB)															IDENTIFICATION:				
6															OMEGA 1.4				
															TEST 75-002-029				
NOISE SOURCE/SUBJECT:															RUN 05				
(F-15A AIRCRAFT															TEMP = 13 C				
(F100-PW-100(1) ENGINE															BAR PRESS = .703 M HG				
(FAR FIELD NOISE															REL HUMID = 26 %				
															PAGE 4				
FREQ															ANGLE (DEGREES)				
((HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
(25	-15	-14	-13	-15	-12	-14	-12	-10	-9	-8	-6	-7	-4	2	5	9	10		
(31.5	-18	-18	-16	-17	-15	-13	-14	-12	-10	-9	-8	-8	-5	3	6	9	8		
(40	-18	-18	-16	-15	-15	-15	-14	-12	-11	-11	-11	-9	-4	2	7	9	7		
(50	-19	-20	-19	-17	-18	-17	-15	-14	-12	-12	-11	-9	-3	2	6	11	6		
(63	-22	-20	-19	-19	-19	-19	-17	-17	-16	-13	-12	-9	-5	2	8	10	3		
(80	-21	-21	-19	-20	-19	-20	-18	-17	-16	-14	-12	-11	-6	1	8	10	4		
(100	-20	-21	-19	-20	-20	-18	-18	-17	-17	-14	-11	-11	-5	2	8	10	1		
(125	-18	-18	-17	-19	-19	-19	-17	-17	-16	-13	-11	-8	-2	5	7	10	2		
(160	-18	-17	-17	-20	-19	-20	-19	-19	-16	-14	-11	-8	0	6	6	9	-0		
(200	-16	-17	-17	-18	-18	-18	-17	-17	-16	-13	-10	-7	-1	6	9	7	-1		
(250	-19	-19	-18	-18	-18	-19	-19	-17	-16	-14	-11	-7	-0	6	9	6	-3		
(315	-17	-16	-14	-17	-18	-19	-19	-17	-15	-14	-10	-6	-0	8	7	7	-2		
(400	-13	-13	-12	-15	-16	-19	-19	-17	-15	-15	-8	-5	1	6	8	8	-3		
(500	-9	-9	-9	-12	-16	-18	-18	-17	-14	-14	-8	-6	2	7	7	7	-3		
(630	-7	-7	-5	-9	-12	-13	-16	-15	-11	-13	-8	-6	1	5	9	6	-4		
(800	-8	-8	-5	-8	-11	-9	-12	-12	-10	-13	-8	-7	-1	6	8	6	-6		
(1000	-11	-11	-8	-9	-12	-9	-9	-9	-8	-12	-8	-6	-2	7	9	5	-8		
(1250	-12	-10	-9	-11	-13	-11	-10	-9	-7	-10	-7	-6	-3	8	8	4	-7		
(1600	-14	-10	-8	-10	-12	-11	-10	-9	-7	-9	-6	-5	-4	8	8	3	-8		
(2000	-14	-11	-10	-10	-11	-9	-8	-8	-7	-8	-4	-5	-5	8	8	2	-9		
(2500	-16	-13	-12	-12	-12	-11	-9	-8	-8	-8	-3	-4	-6	8	8	2	-10		
(3150	-18	-15	-13	-12	-13	-11	-10	-9	-8	-8	-4	-5	-6	9	7	2	-14		
(4000	-18	-16	-15	-13	-14	-12	-11	-9	-9	-9	-4	-5	-8	9	7	2	-16		
(5000	-22	-20	-18	-17	-18	-15	-15	-13	-10	-9	-5	-6	-6	9	8	1	-19		
(6300	-22	-20	-18	-18	-18	-16	-15	-13	-12	-12	-7	-7	-9	9	8	2	-22		
(8000	-23	-21	-20	-19	-20	-18	-16	-14	-13	-13	-8	-8	-10	8	9	3	-22		
(10000	-29	-27	-25	-25	-26	-23	-22	-20	-18	-17	-13	-10	-14	8	9	0	-24		
OCTAVE																			
(31.5	-17	-17	-16	-16	-15	-15	-14	-12	-10	-10	-9	-9	-4	3	7	9	8		
(63	-21	-21	-19	-19	-19	-19	-17	-17	-15	-13	-12	-10	-5	2	8	10	4		
(125	-18	-19	-17	-20	-19	-19	-18	-18	-16	-14	-11	-8	-1	5	7	10	1		
(250	-18	-17	-16	-18	-18	-19	-18	-17	-15	-14	-10	-7	-1	7	8	6	-2		
(500	-10	-10	-9	-12	-15	-17	-18	-16	-13	-14	-8	-6	1	6	8	7	-3		
(1000	-9	-9	-7	-9	-12	-10	-10	-8	-8	-12	-7	-6	-2	7	8	5	-7		
(2000	-14	-11	-9	-10	-12	-10	-11	-9	-7	-8	-4	-5	-5	8	8	3	-9		
(4000	-18	-16	-14	-13	-14	-12	-11	-10	-9	-8	-4	-5	-7	9	7	2	-15		
(8000	-23	-21	-20	-19	-20	-18	-16	-14	-13	-13	-8	-8	-10	8	9	2	-23		
OVERALL																			
(-14	-14	-14	-13	-15	-16	-16	-16	-15	-13	-13	-9	-7	-1	6	8	8	-1		

TABLE: DIRECTIVITY INDEX (DB)										IDENTIFICATION:									
6										OMEGA 1.4									
NOISE SOURCE/SUBJECT:										TEST 75-002-029									
(F-15A AIRCRAFT										RUN 06									
(F100-PW-100(1) ENGINE										07 MAY 75									
(FAR FIELD NOISE										PAGE 4									
OPERATION:										METEOROLOGY:									
(AFTERBURNER, ZONE 5										TEMP = 13 C									
(90% RPM										BAR PRESS = .703 M HG									
(SINGLE ENGINE										REL HUMID = 26 %									
(FREE FLOW																			
FREQ										ANGLE (DEGREES)									
(HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-12	-12	-13	-12	-12	-9	-9	-8	-7	-9	-9	-4	-0	6	7	6	6		
31.5	-15	-15	-14	-14	-13	-11	-11	-11	-9	-9	-9	-5	1	5	9	3	4		
40	-14	-14	-13	-12	-12	-12	-11	-11	-10	-10	-9	-5	2	6	9	3	2		
50	-15	-17	-17	-14	-14	-14	-14	-13	-11	-11	-10	-6	1	7	9	-0	2		
63	-16	-16	-16	-15	-16	-15	-16	-13	-12	-11	-11	-5	2	8	8	-3	-2		
80	-17	-17	-16	-15	-16	-16	-17	-14	-12	-10	-10	-3	3	9	6	-3	-2		
100	-17	-16	-17	-16	-16	-16	-17	-14	-12	-10	-9	-4	3	9	5	-3	-4		
125	-16	-15	-14	-16	-15	-15	-14	-11	-10	-9	-7	-2	4	8	6	-3	-4		
160	-16	-15	-16	-16	-15	-15	-14	-13	-11	-10	-5	1	7	6	5	-3	-4		
200	-17	-16	-16	-16	-15	-16	-16	-15	-12	-11	-7	-0	8	6	2	-6	-6		
250	-15	-14	-14	-14	-14	-14	-14	-13	-10	-10	-6	1	8	7	2	-7	-7		
315	-18	-16	-14	-14	-14	-15	-15	-12	-10	-9	-4	3	8	5	1	-7	-6		
400	-16	-13	-12	-13	-14	-16	-15	-12	-9	-9	-3	2	8	5	0	-7	-6		
500	-15	-13	-12	-13	-13	-15	-14	-12	-9	-7	-1	2	8	5	-0	-7	-6		
630	-13	-11	-8	-11	-13	-12	-11	-9	-6	-5	1	2	8	5	0	-6	-6		
800	-13	-11	-9	-11	-14	-11	-11	-9	-5	-4	1	2	7	5	0	-7	-6		
1000	-14	-11	-10	-11	-14	-11	-9	-8	-3	-4	2	2	7	5	0	-7	-6		
1250	-15	-11	-11	-11	-13	-11	-9	-7	-3	-3	2	2	6	5	0	-6	-7		
1600	-16	-11	-11	-11	-14	-11	-9	-7	-3	-3	2	2	6	5	0	-7	-9		
2000	-15	-12	-11	-10	-11	-9	-7	-5	-3	-2	3	2	5	5	-0	-7	-9		
2500	-18	-15	-14	-12	-13	-10	-8	-7	-3	-2	3	2	5	5	1	-9	-11		
3150	-20	-16	-15	-13	-13	-10	-8	-6	-4	-2	4	2	5	5	-0	-9	-13		
4000	-21	-18	-17	-14	-15	-12	-9	-7	-5	-2	3	2	6	5	-1	-10	-14		
5000	-22	-19	-18	-16	-16	-13	-10	-9	-6	-3	2	2	7	6	-1	-11	-16		
6300	-25	-21	-20	-19	-18	-14	-12	-10	-8	-4	2	1	7	6	-2	-13	-19		
8000	-29	-25	-24	-22	-22	-19	-15	-13	-10	-4	3	2	7	6	-1	-13	-20		
10000	-32	-29	-27	-26	-25	-21	-17	-14	-12	-6	1	0	7	7	-3	-14	-23		
OCTAVE																			
31.5	-14	-14	-13	-13	-12	-11	-11	-10	-9	-9	-9	-5	1	6	9	3	3		
63	-16	-17	-16	-16	-15	-16	-16	-14	-12	-11	-10	-4	3	8	7	-2	-1		
125	-16	-15	-15	-16	-16	-15	-14	-13	-11	-9	-7	-1	5	8	5	-3	-4		
250	-17	-15	-15	-15	-14	-15	-15	-13	-11	-10	-5	1	8	6	2	-6	-6		
500	-15	-12	-11	-12	-13	-14	-14	-11	-7	-7	-1	2	8	5	0	-7	-6		
1000	-14	-11	-10	-11	-14	-11	-9	-8	-4	-4	2	2	7	5	0	-7	-7		
2000	-16	-12	-12	-11	-13	-10	-8	-6	-3	-2	3	2	5	5	0	-6	-9		
4000	-21	-17	-16	-14	-14	-11	-9	-7	-5	-2	3	2	6	5	-1	-10	-14		
8000	-27	-24	-22	-21	-21	-17	-14	-12	-9	-5	2	1	7	6	-2	-13	-20		
OVERALL	-16	-14	-14	-14	-14	-14	-13	-12	-9	-8	-3	0	7	7	4	-4	-4		

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IDENTIFICATION: )  
 )  
 ) OMEGA 1.4  
 ) TEST 75-002-052  
 ) RUN 01  
 )  
15 C )  
.760 M HG )  
70 % )  
 ) PAGE 11  
 )
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15 C
.760 M HG
70 %
) RUN 01
) 13 MAY 75
) PAGE 11
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METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 H HG
REF HUMID = 70 %

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(OPERATION:

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((JET FUEL STARTER ON

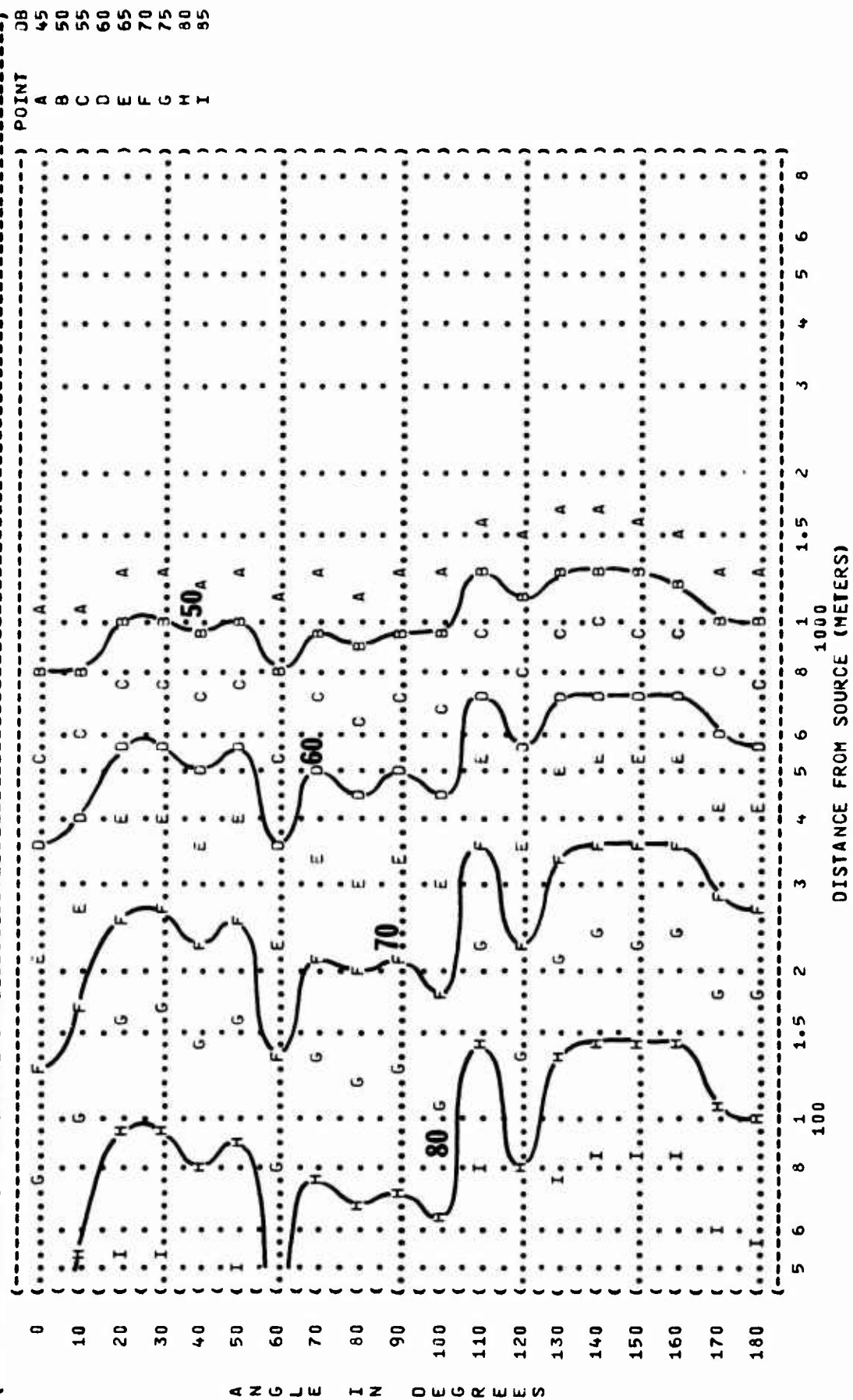
(FREE FLOW

ISE SOURCE/SUBJECT:

E-16A AYDCO AET

F-13A AIRCRAFT
F100-PW-100(1) ENGINE

FAR FIELD NOISE



AZGJE HZ DEGRWWS

(FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
 (5 EQUAL LEVEL CONTOURS (DB)
 () IDENTIFICATION:
 () OMEGA 1.4
 () TEST 75-002-029
 () RUN 01
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (IDLE POWER
 (F100-PW-100(1) ENGINE (60% RPM
 (FAR FIELD NOISE (BOTH ENGINES
 (FREE FLOW (REL HUMID = 70 %
 () PAGE 13
 () METEOROLOGY:
 () TEMP = 15 C
 () BAR PRESS = .760 M HG
 () 07 MAY 75
 () 13

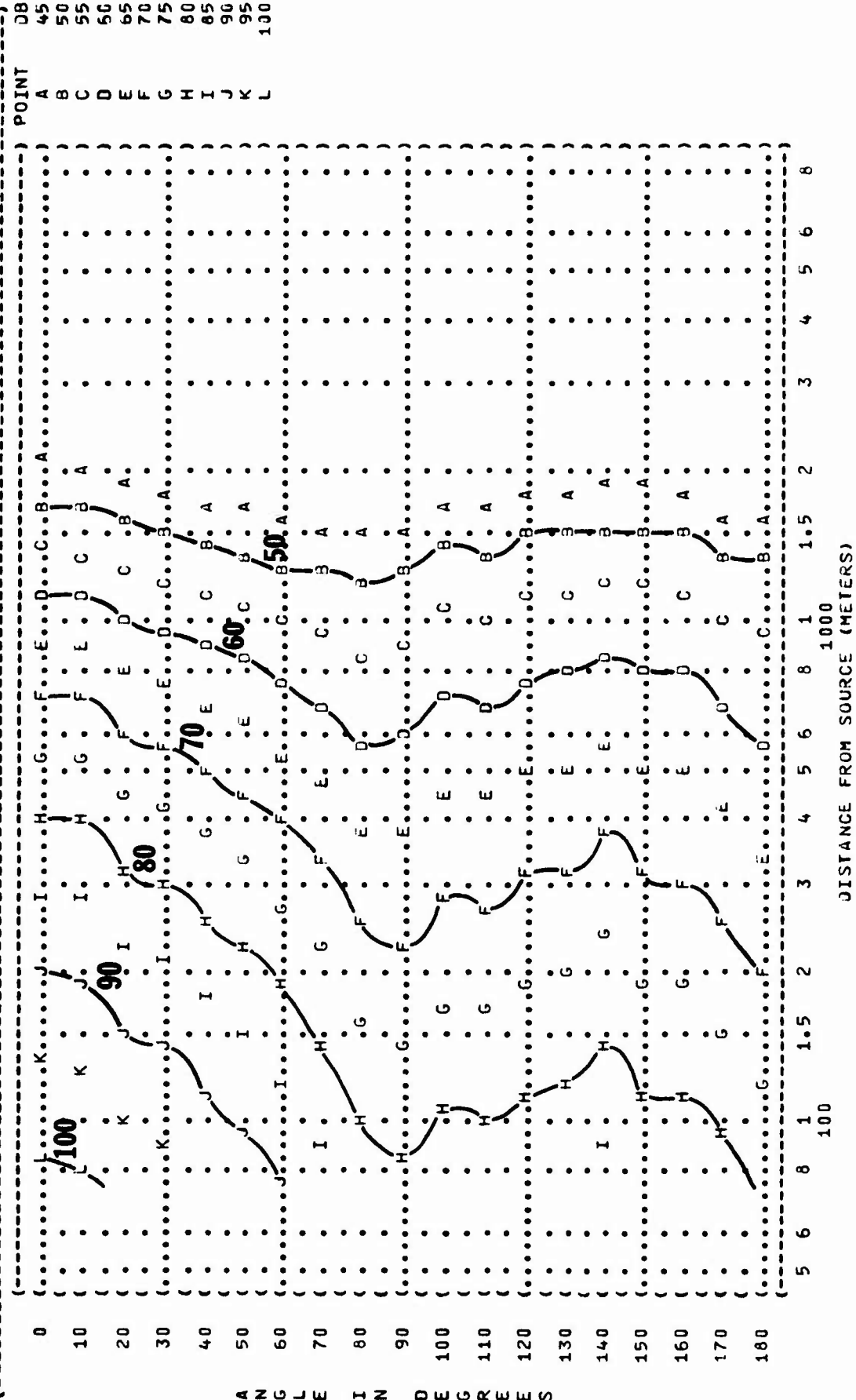


FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (DB)

5

NOISE SOURCE/SUBJECT:

F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

OPERATION:

80% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

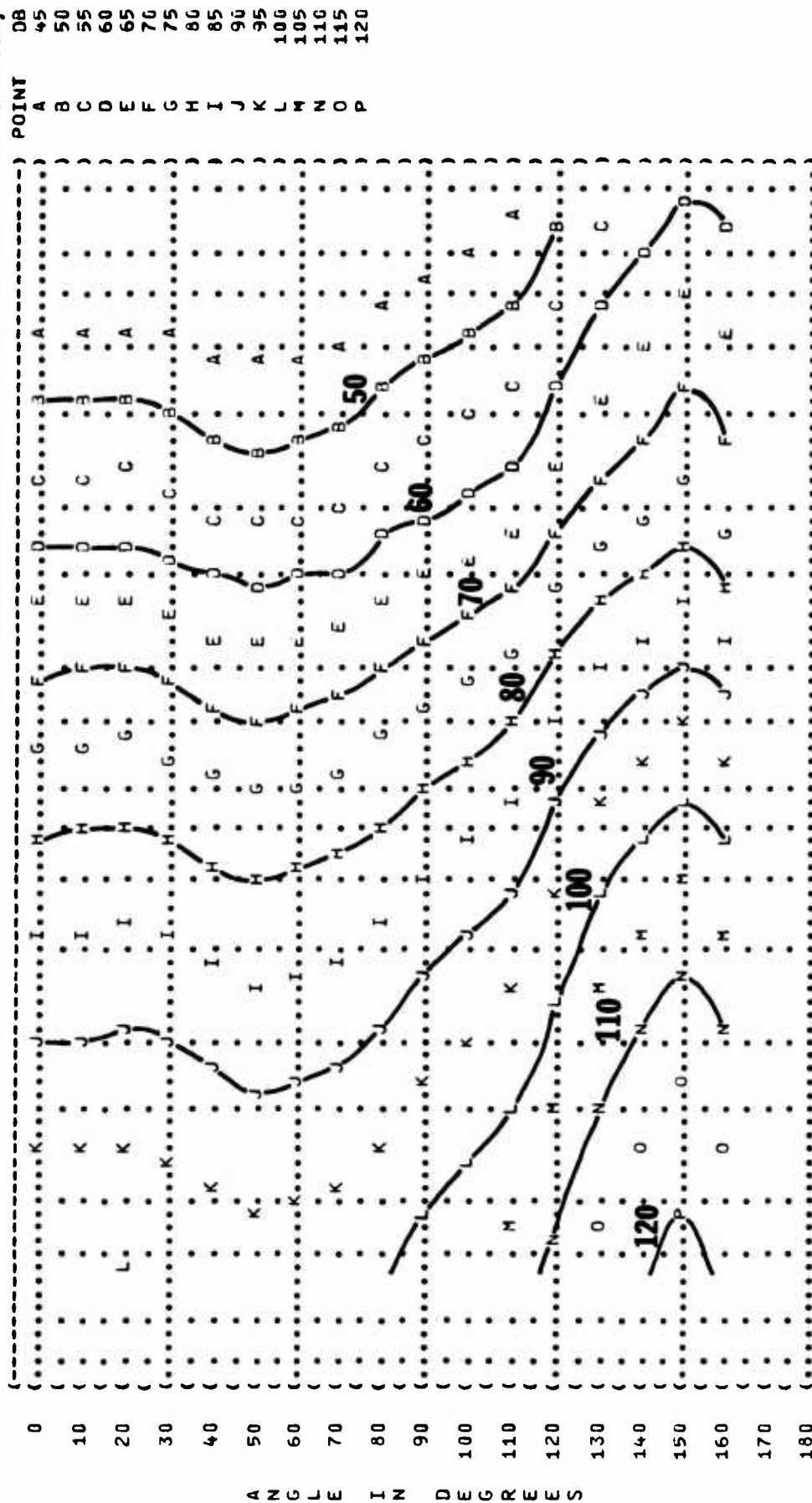
OMEGA 1.4

TEST 75-002-029

RUN 02

07 MAY 75

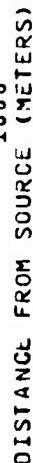
PAGE 13



DISTANCE FROM SOURCE (METERS)

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PAGE 13



IDENTIFICATION: 1.4
TEST 75-002-029
RUN 04
07 MAY 75
PAGE 13

DEPARTMENT OF METEOROLOGY:

BAR PRESS = .760 M HG
REL HUMID = 70 %

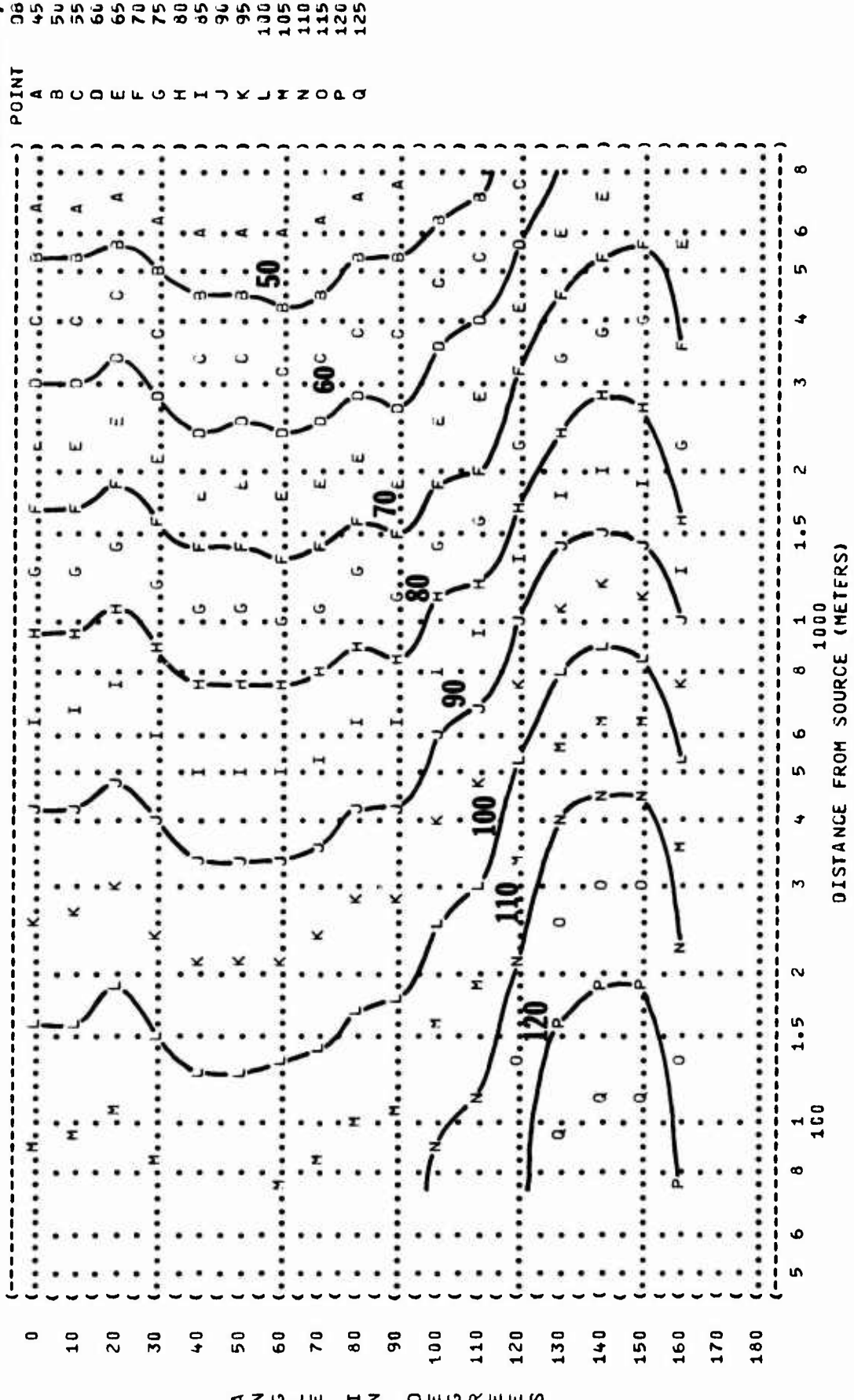
07 MAY 75
PAGE 13



FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
 5
 EQUAL LEVEL CONTOURS (D3)

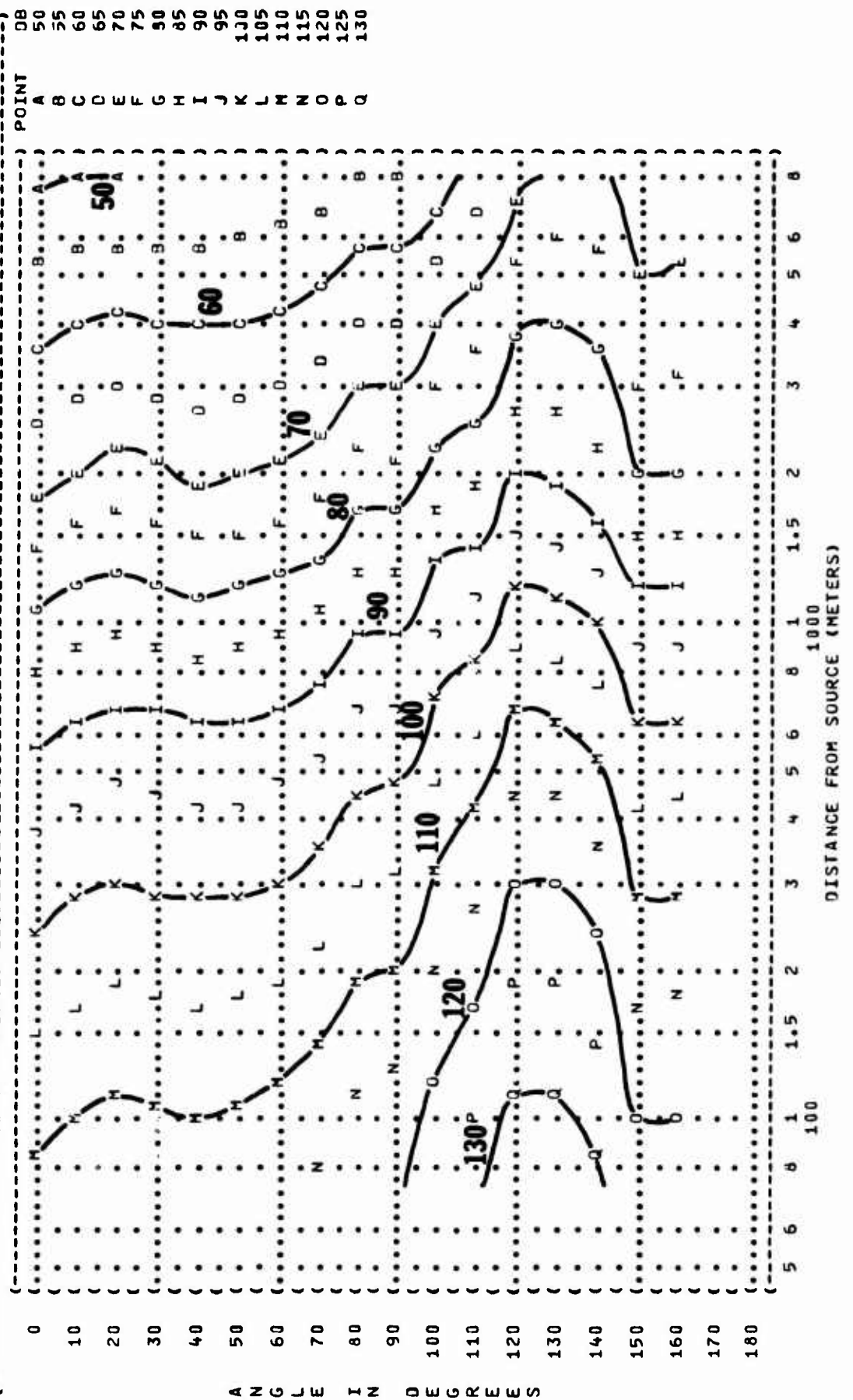
NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY:
 F-15A AIRCRAFT MILITARY POWER
 F100-PW-100(1) ENGINE 90% RPM
 FAR FIELD NOISE SINGLE ENGINE 70%
 FREE FLOW

IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-029
 RUN 05
 07 MAY 75
 PAGE 13

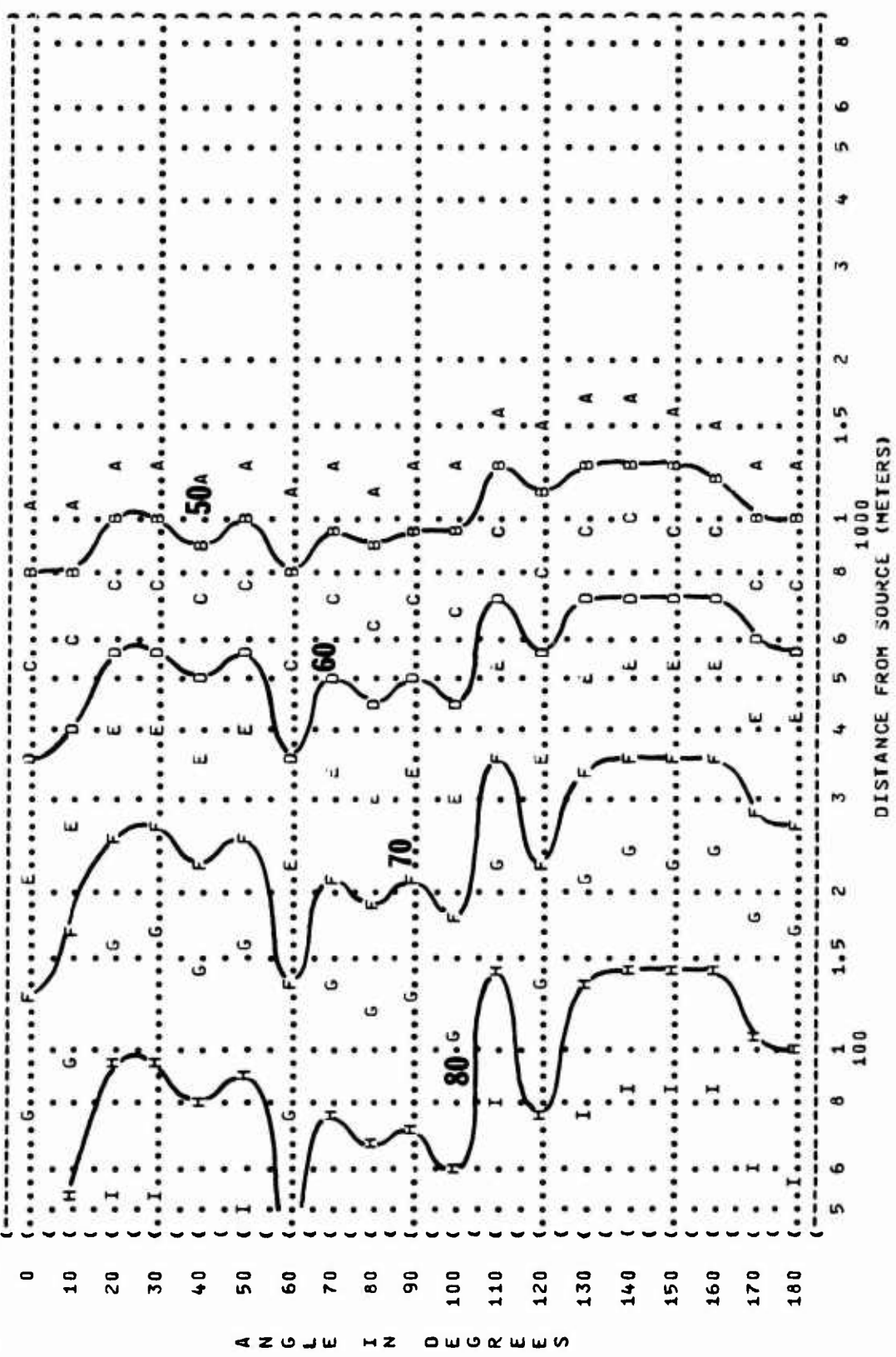


ANGLE IN DEGREES

(FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
 (5
 (EQUAL LEVEL CONTOURS (DB)
 () IDENTIFICATION:)
 ()
 () OMEGA 1.4
 () TEST 75-002-029
 () RUN 06
 ()
 (NOISE SOURCE/SUBJECT:) METEOROLOGY:)
 () AFTERBURNER, ZONE 5) TEMP = 15 C
 () F-15A AIRCRAFT) 90% RPM) BAR PRESS = .760 M HG
 () F100-PW-100(1) ENGINE) SINGLE ENGINE) REL HUMID = 70 %
 () FAR FIELD NOISE) FREE FLOW)
 () PAGE 13
 ()



(FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
 (EQUAL LEVEL CONTOURS (DBC)
 (6
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (ENGINES OFF
 (F100-PW-100(1) ENGINE (JET FJEL STARTER ON
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-052
 (RUN 01
 (13 MAY 75
 (PAGE 12
 (POINT DBC
 (A 45
 (B 50
 (C 55
 (D 60
 (E 65
 (F 70
 (G 75
 (H 80
 (I 85

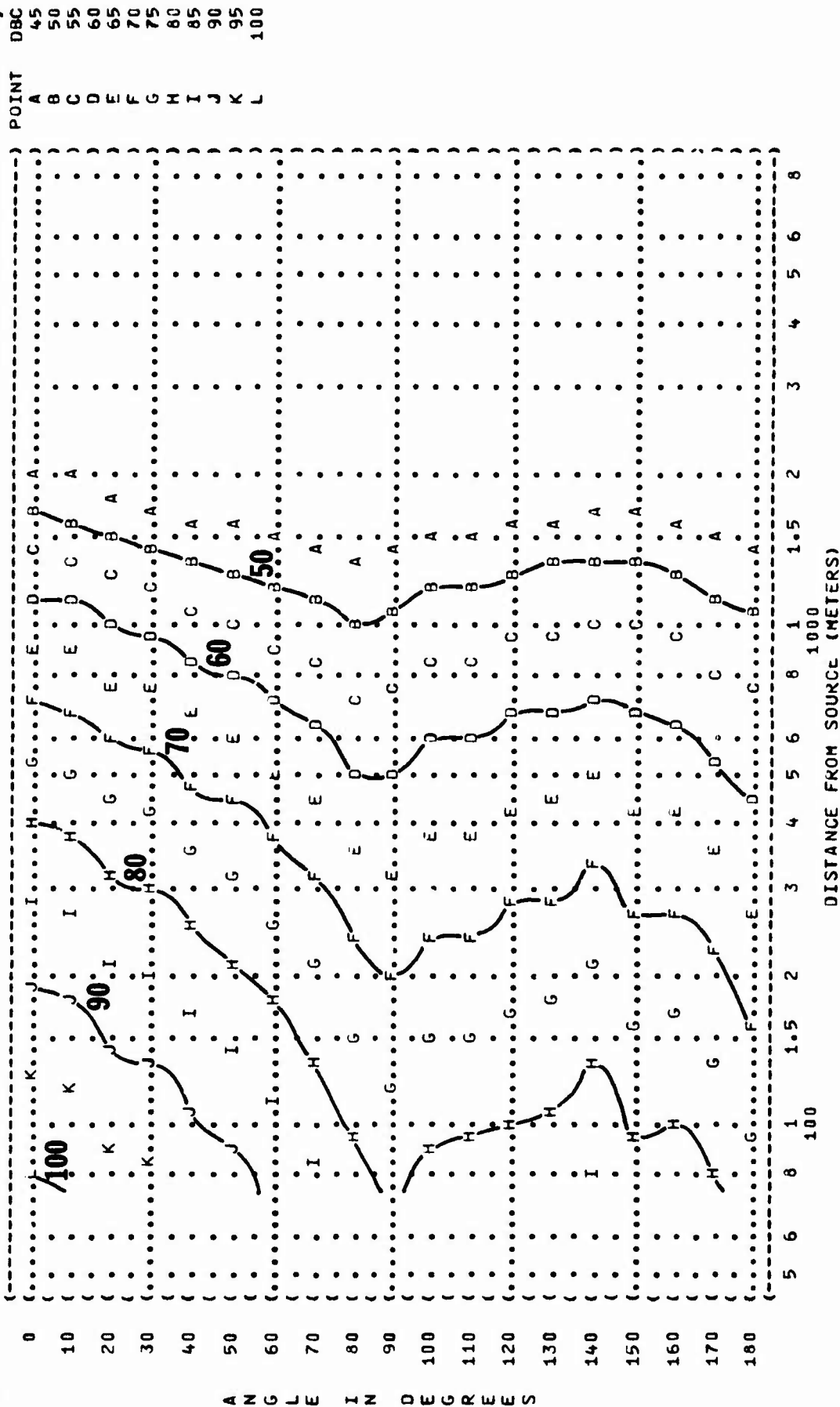


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( ) NOISE SOURCE/SUBJECT:      ) OPERATION:      ) METEOROLOGY:      ) OMEGA 1.4
-----)-----)-----)
( ) F-15A AIRCRAFT              ) IDLE POWER       ) TEMP = 15 C       ) TEST 75-002-029
( ) F100-PW-103(1) ENGINE        ) 60% RPM          ) BAR PRESS = .760 M HG ) RUN 01
( ) FAR FIELD NOISE              ) BOTH ENGINES     ) REL HUMID = 70 %    )
( )                              ) FREE FLOW        )                      ) PAGE 14

```



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FAR FIELD NOISE

FREE FLOW

REL HUMID = 70 %

TEST 75-002-029

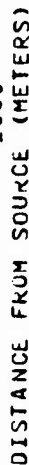


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
 EQUAL LEVEL CONTOURS (DBC)

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NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 (F-15A AIRCRAFT (MILITARY POWER) TEMP = 15 C)
 (F100-PW-100(1) ENGINE (90% RPM) BAR PRESS = .760 M HG)
 (FAR FIELD NOISE (BOTH ENGINES) REL HUMID = 70 %)
 (FREE FLOW))

IDENTIFICATION:)
)
) OMEGA 1.4
) TEST 75-002-029
) RUN 03
) 07 MAY 75
) PAGE 14

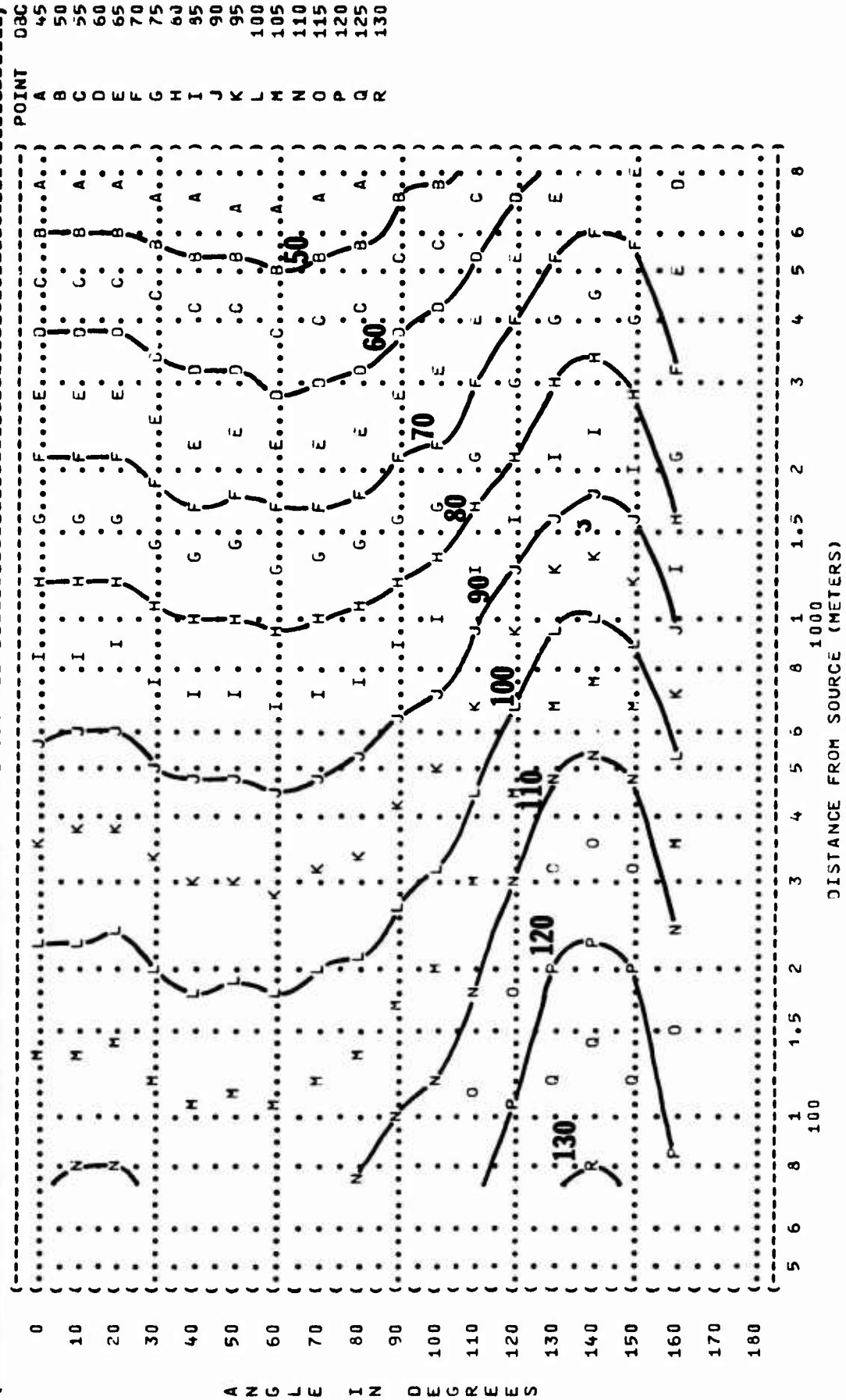
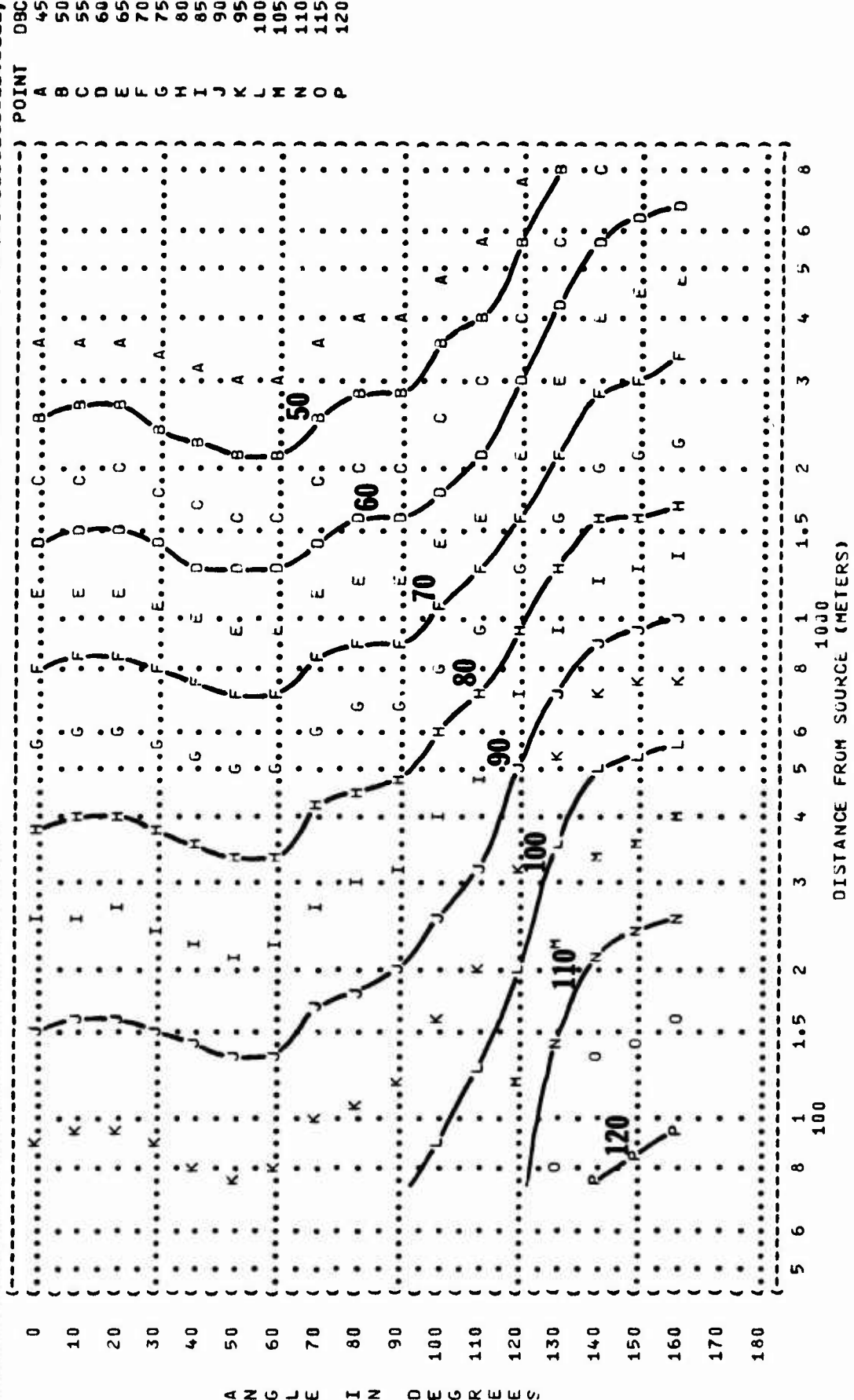
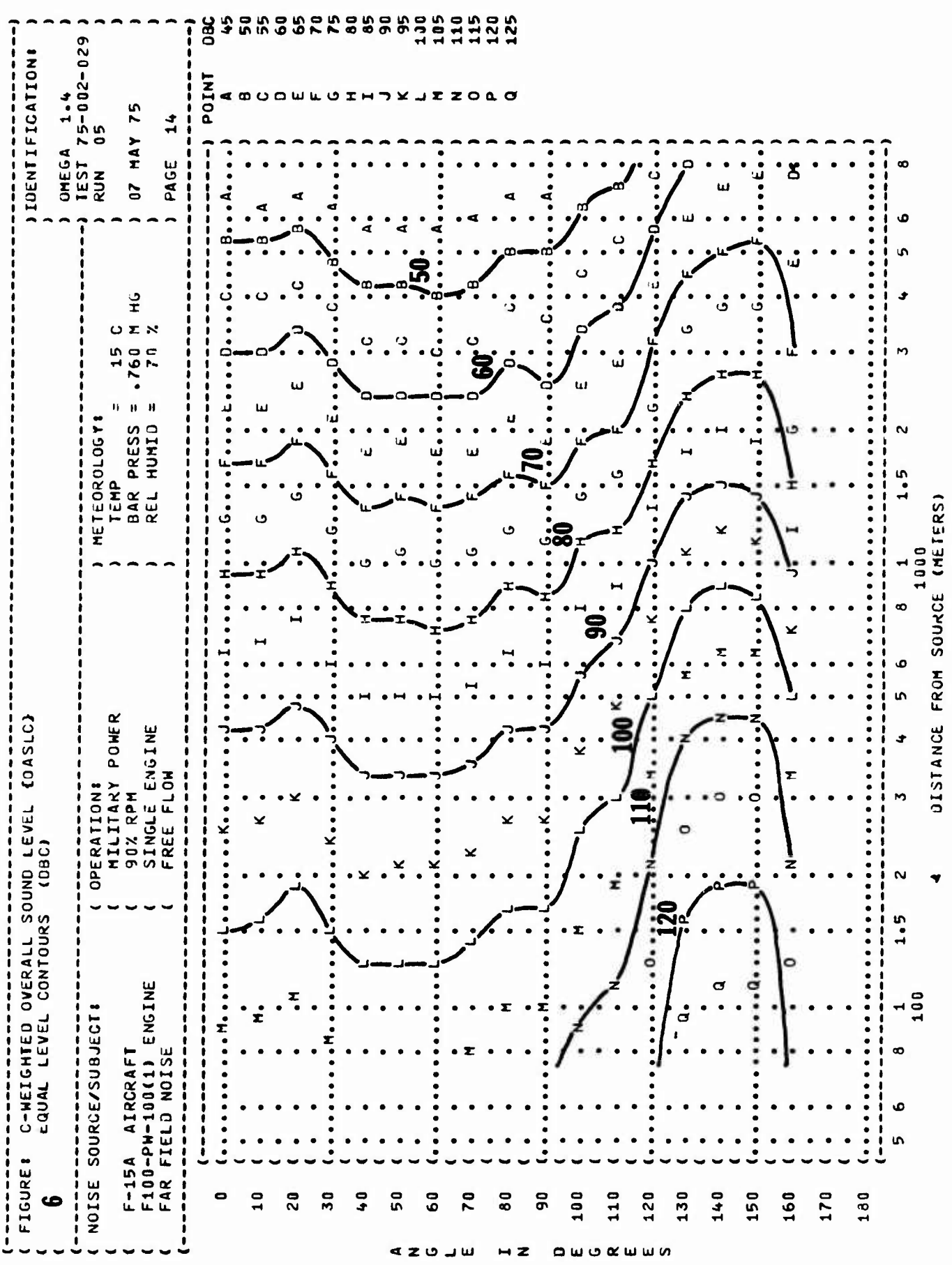
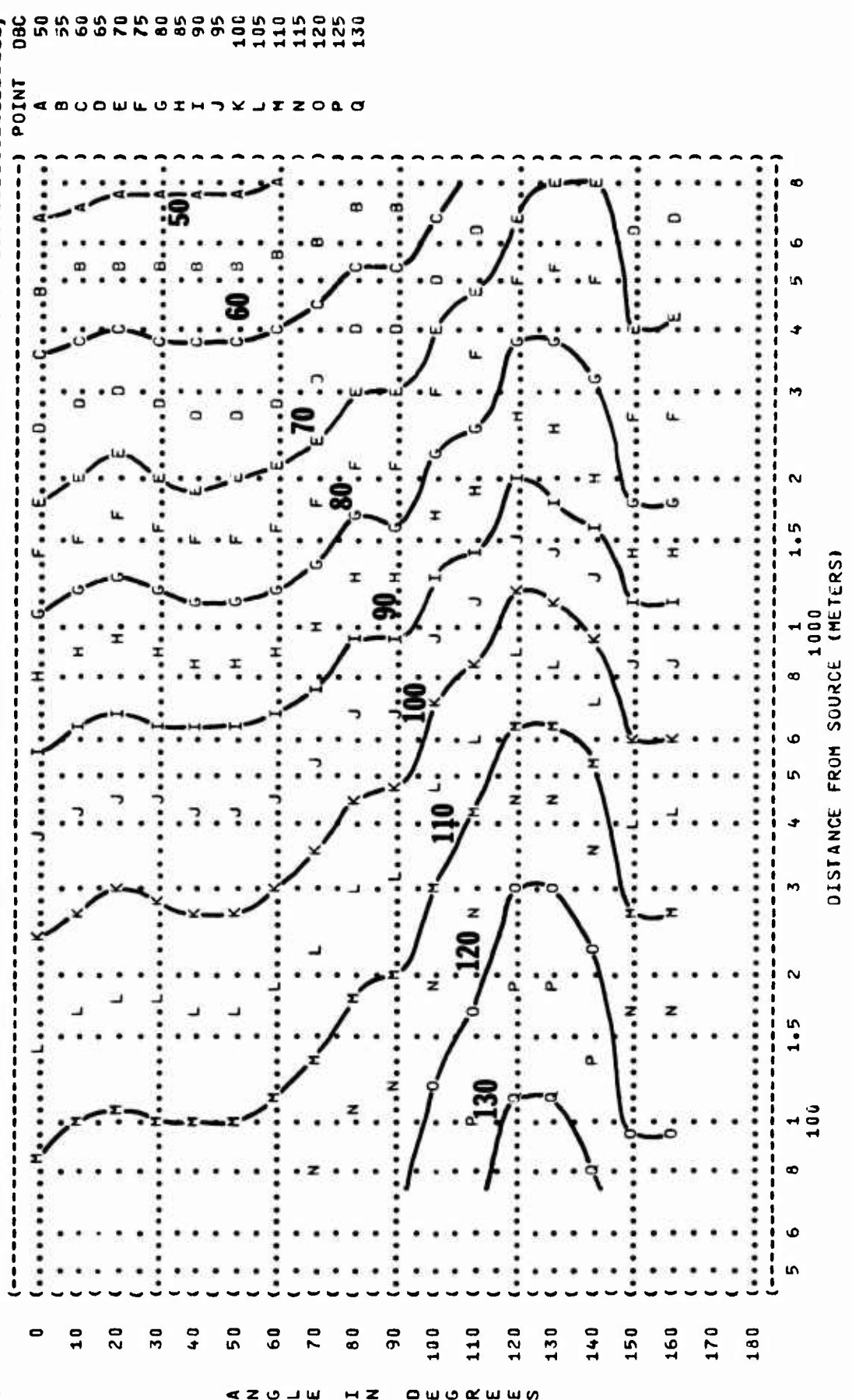


FIGURE 1 C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
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 IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-029
 RUN 04
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
 OPERATION:
 80% RPM
 SINGLE ENGINE
 FREE FLOW
 NOISE SOURCE/SUBJECT:
 F-15A AIRCRAFT
 F100-PW-100(1) ENGINE
 FAR FIELD NOISE
 07 MAY 75
 PAGE 14





((FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
 ((EQUAL LEVEL CONTOURS (DBC)
 ((6
 ((NOISE SOURCE/SUBJECT: (OPERATION: (METEOROLOGY:
 ((F-15A AIRCRAFT (AFTERBURNER, ZONE 5 (TEMP = 15 C
 ((F100-PW-100(1) ENGINE (90% RPM (BAR PRESS = .760 M HG
 ((FAR FIELD NOISE (SINGLE ENGINE (REL HUMID = 70 %
 (((FREE FLOW ()
 ((OMEGA 1.4
 ((TEST 75-002-029)
 ((RUN 06)
 ((PAGE 14)

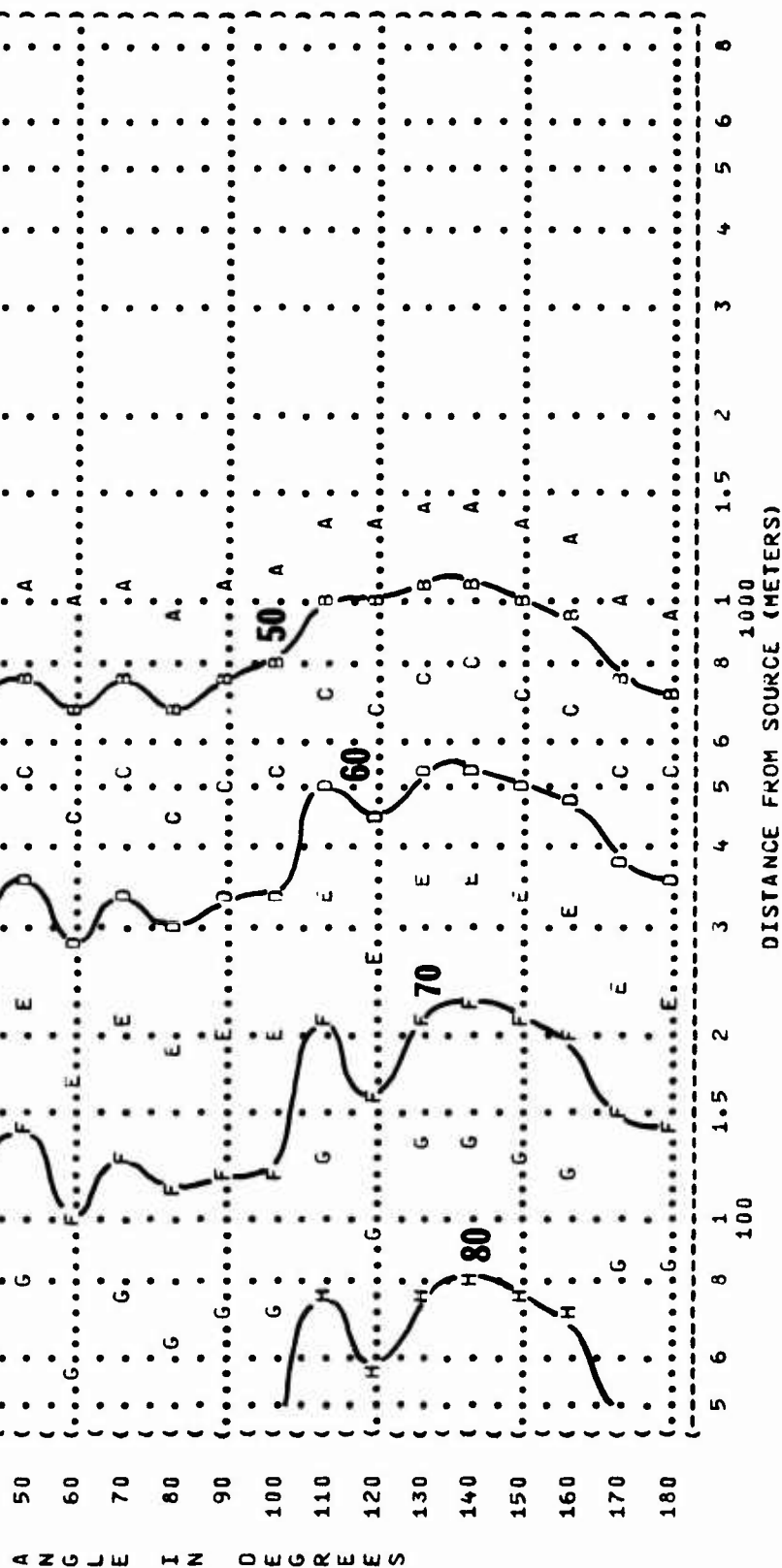


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IDENTIFICATION:
OMEGA 1.4
TEST 75-002-052
RUN 01
13 MAY 75
PAGE 13
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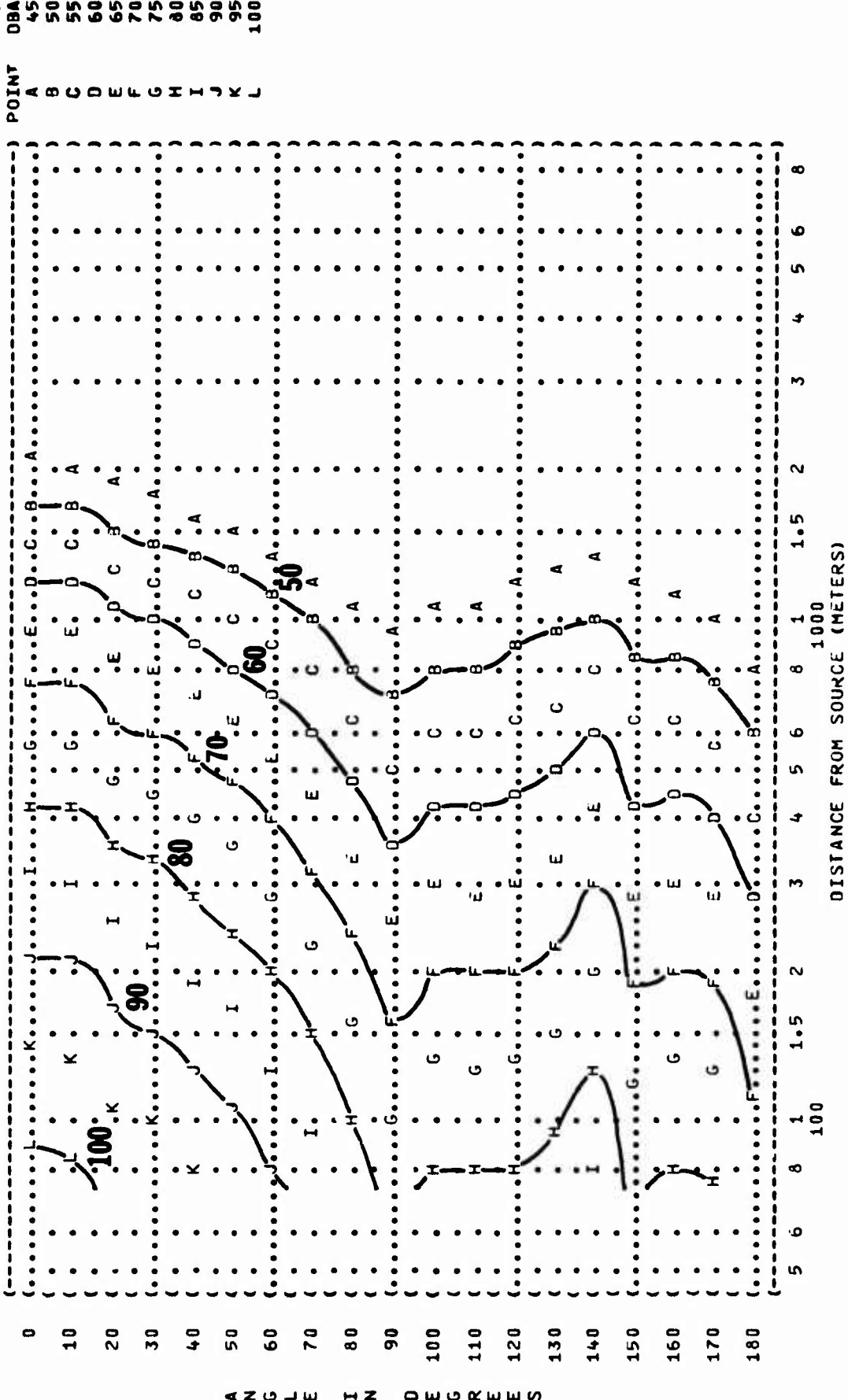
TEST 75-002-052)
RUN 01)

RUN 01
13 MAY 75
PAGE 13

POINT	OBAB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80



(FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
 (7
 (EQUAL LEVEL CONTOURS (DBA)
 () IDENTIFICATION:)
 () OMEGA 1.4
 () TEST 75-002-029
 () RUN 01
 (NOISE SOURCE/SUBJECT:) OPERATION:) METEOROLOGY:)
 () IDLE POWER) TEMP = 15 C
 (F-15A AIRCRAFT) 60% RPM) BAR PRESS = .760 M HG
 (F100-PW-100(1) ENGINE) BOTH ENGINES) REL HUMID = 70 %
 (FAR FIELD NOISE) FREE FLOW)
 () PAGE 15



A N G
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 D E G
 R E E S

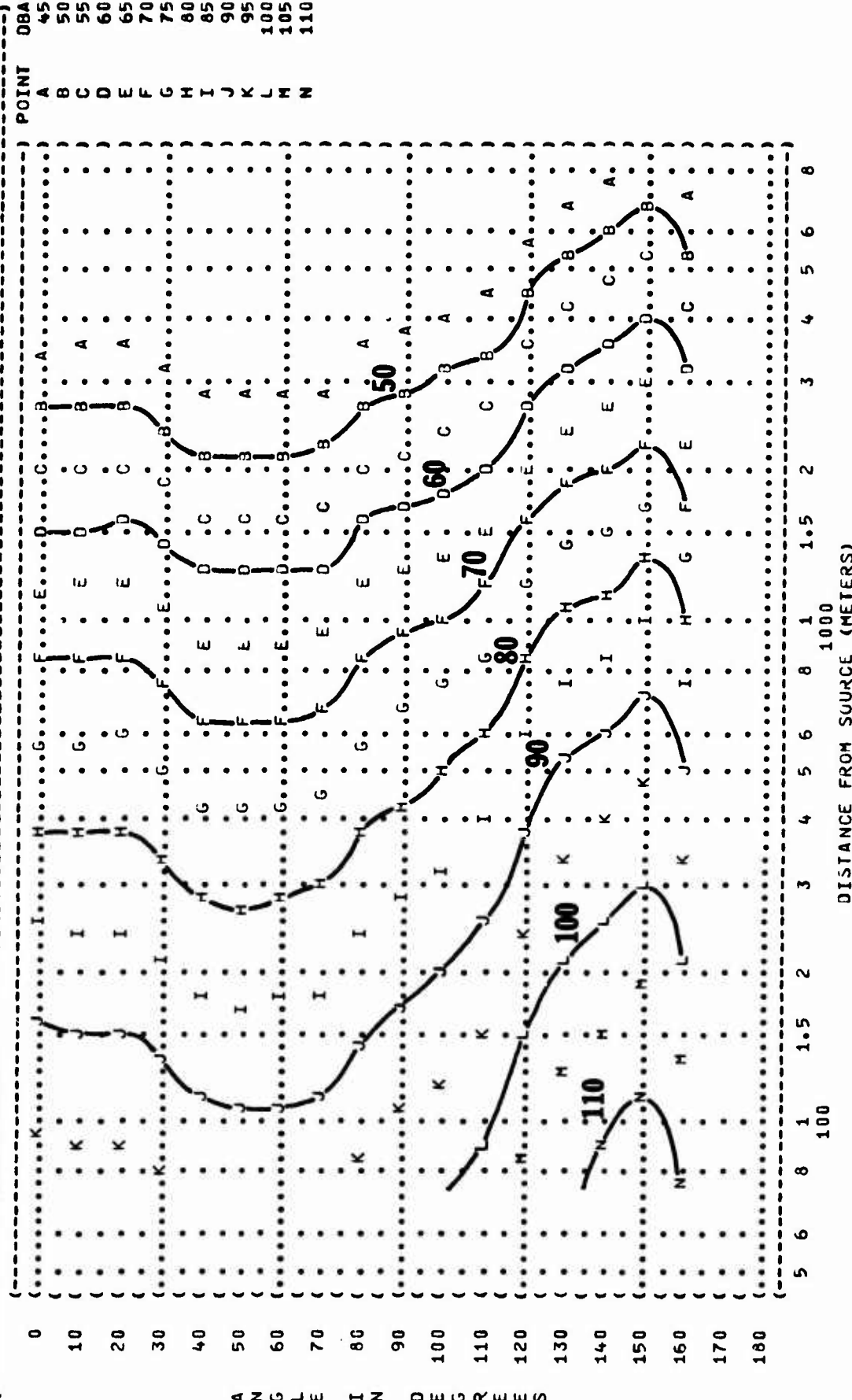
DISTANCE FROM SOURCE (METERS)
 100 150 200 300 400 500 600 800 1000

FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (DBA)

7

IDENTIFICATION:)
OMEGA 1.4)
TEST 75-002-029)
RUN 02)
METEOROLOGY:)
TEMP = 15 C)
BAR PRESS = .760 M HG)
REL HUMID = 70 %)
07 MAY 75)
PAGE 15)

NOISE SOURCE/SUBJECT:)
OPERATION:)
80% RPM)
F-15A AIRCRAFT)
F100-PW-100(1) ENGINE)
FAR FIELD NOISE)
FREE FLOW)

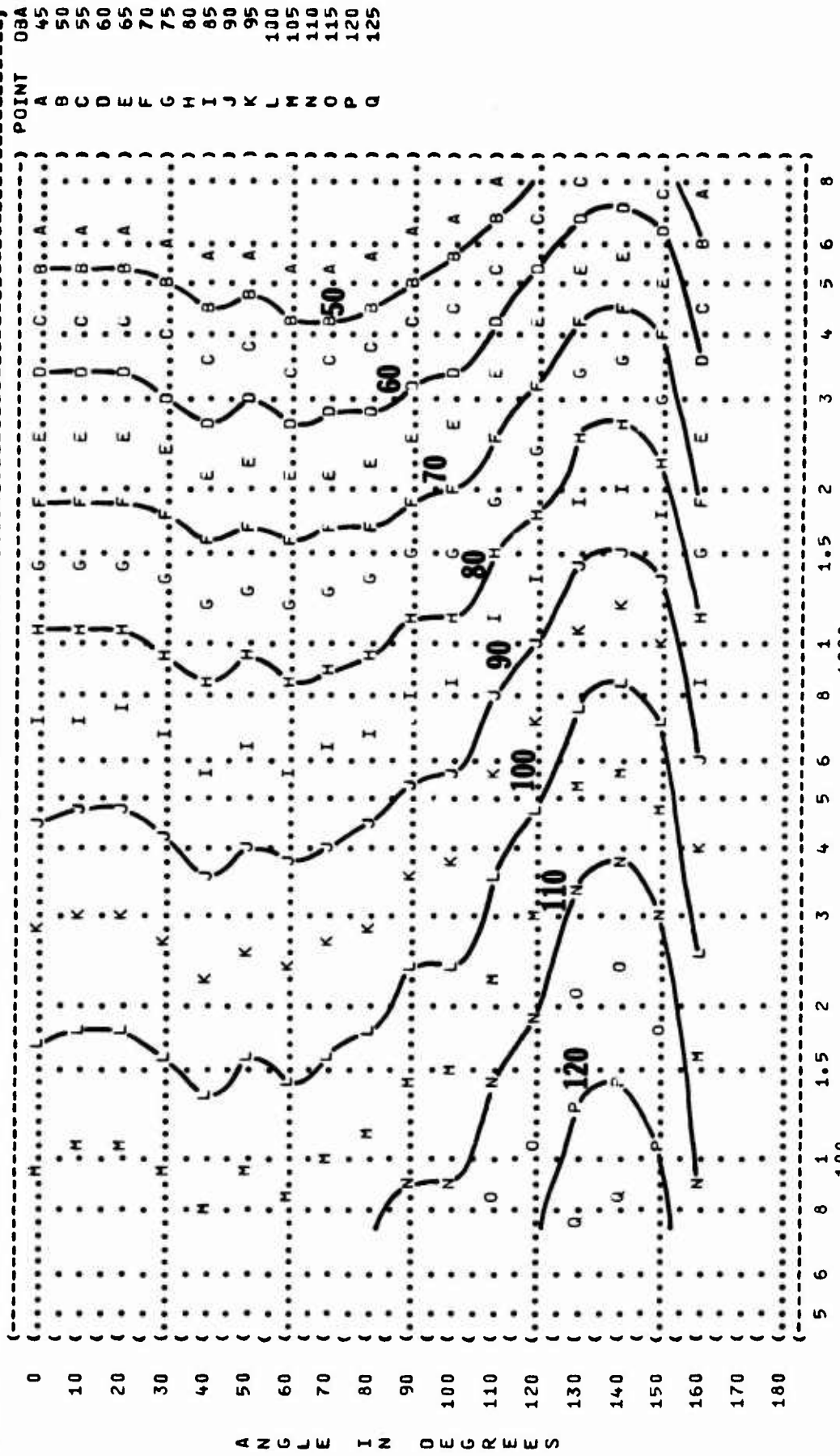


A N G L E I N D E G R E E S

FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
 EQUAL LEVEL CONTOURS (DBA)

7

NOISE SOURCE/SUBJECT: () OPERATION: () METEOROLOGY: ()
 () F-15A AIRCRAFT () MILITARY POWER () TEMP = 15 C
 () F100-PW-100(1) ENGINE () 90% RPM () BAR PRESS = .760 M HG
 () FAR FIELD NOISE () BOTH ENGINES () REL HUMID = 70 %
 () FREE FLOW ()
 IDENTIFICATION: () OMEGA 1.4
 TEST 75-002-029
 RUN 03
 07 MAY 75
 PAGE 15



DISTANCE FROM SOURCE (METERS)

FIGURE 1 A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (DBA)

7

NOISE SOURCE/SUBJECT:

F-15A AIRCRAFT
F100-PM-100(1) ENGINE
FAR FIELD NOISE

OPERATION:

80% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:

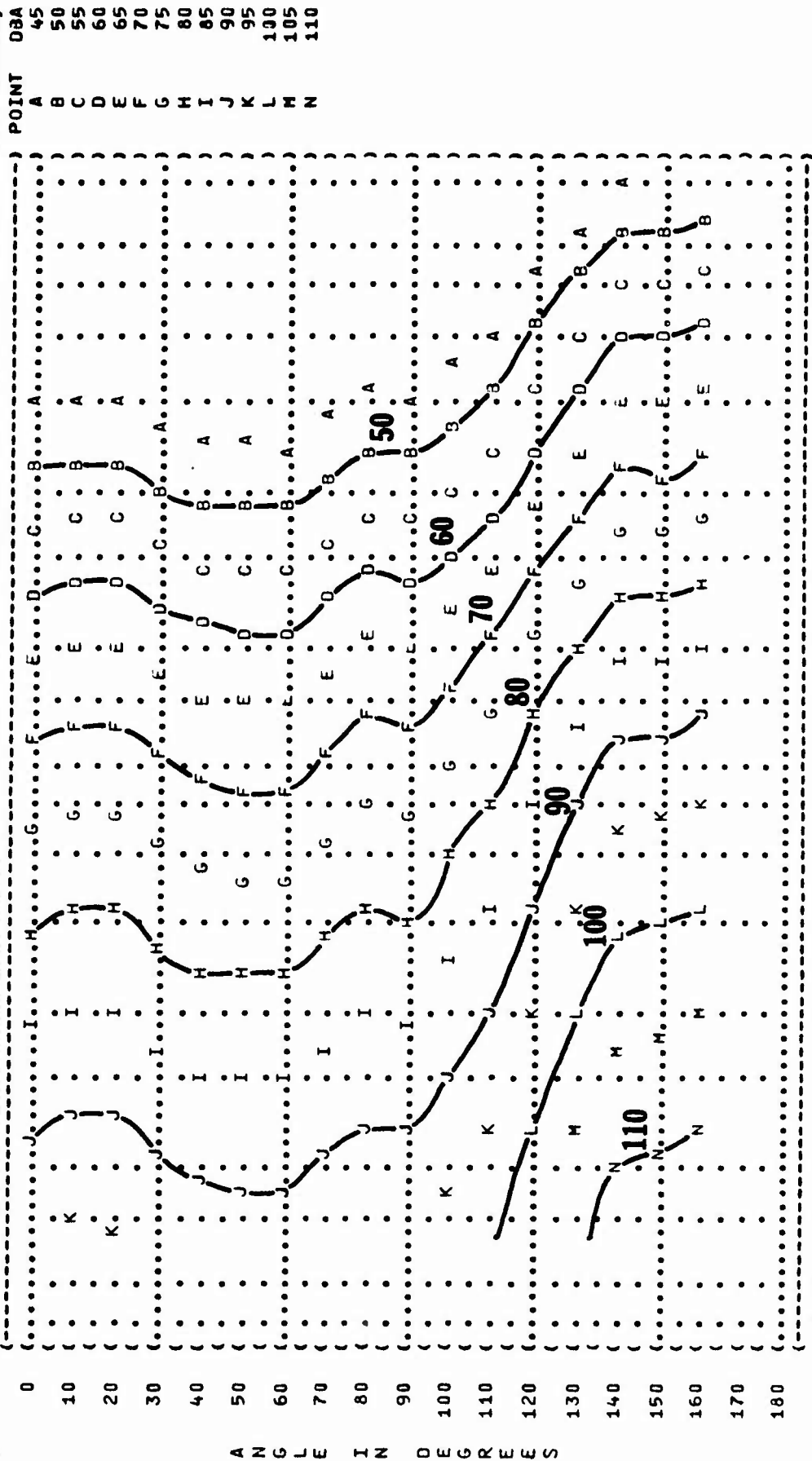
OMEGA 1.4

TEST 75-002-029

RUN 04

07 MAY 75

PAGE 15

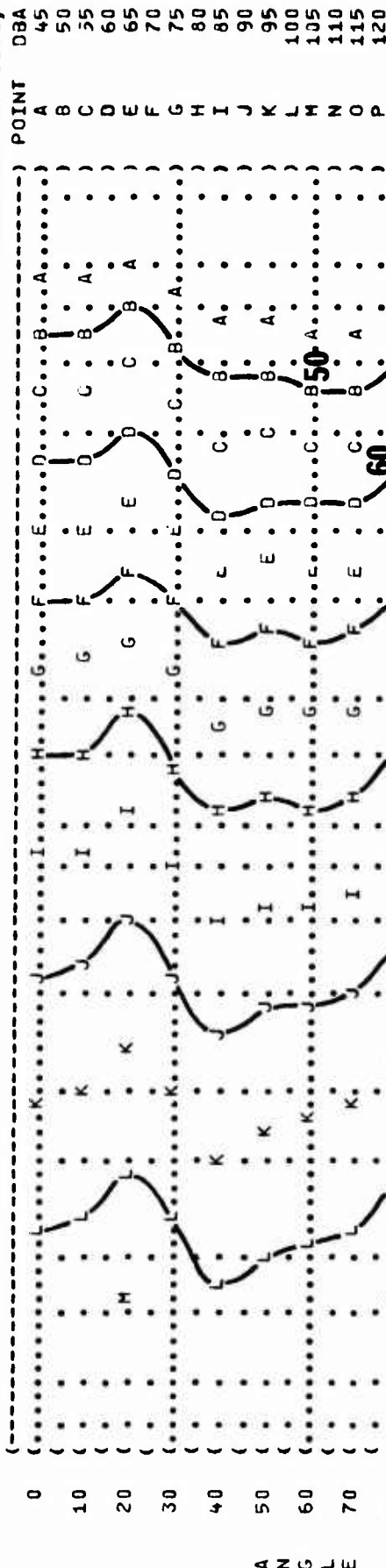


DISTANCE FROM SOURCE (METERS)

FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
 EQUAL LEVEL CONTOURS (DBA)

7

IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-029
 RUN 05
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
 OPERATION:
 MILITARY POWER
 90% RPM
 SINGLE ENGINE
 FREE FLOW
 NOISE SOURCE/SUBJECT:
 F-15A AIRCRAFT
 F100-PW-100(1) ENGINE
 FAR FIELD NOISE



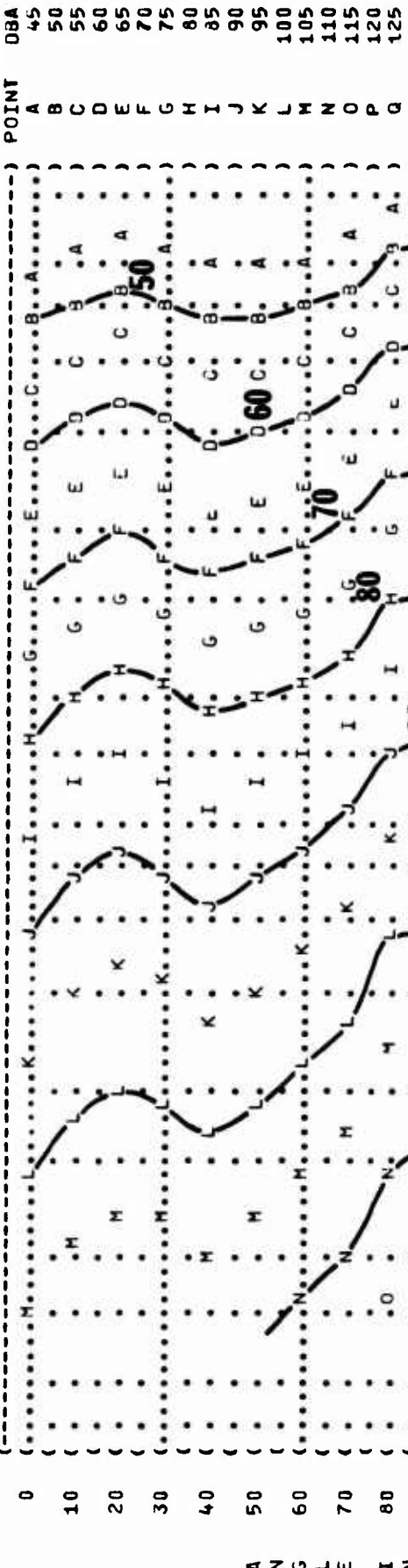
A N G L E I N D E G R E E S

DISTANCE FROM SOURCE (METERS)

FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (DBA)

7

IDENTIFICATION: OMEGA 1.4
TEST 75-002-029
RUN 06
METEOROLOGY: TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION: AFTERBURNER, ZONE 5
F-15A AIRCRAFT 90% RPM
F100-PM-100(1) ENGINE SINGLE ENGINE
FAR FIELD NOISE FREE FLOW



ANGLED IN DEGREE S

FIGURE 1: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
O EQUAL LEVEL CONTOURS (PNDB)

EQUAL LEVEL CONTOURS (PNOB)

TEST 75-002-052

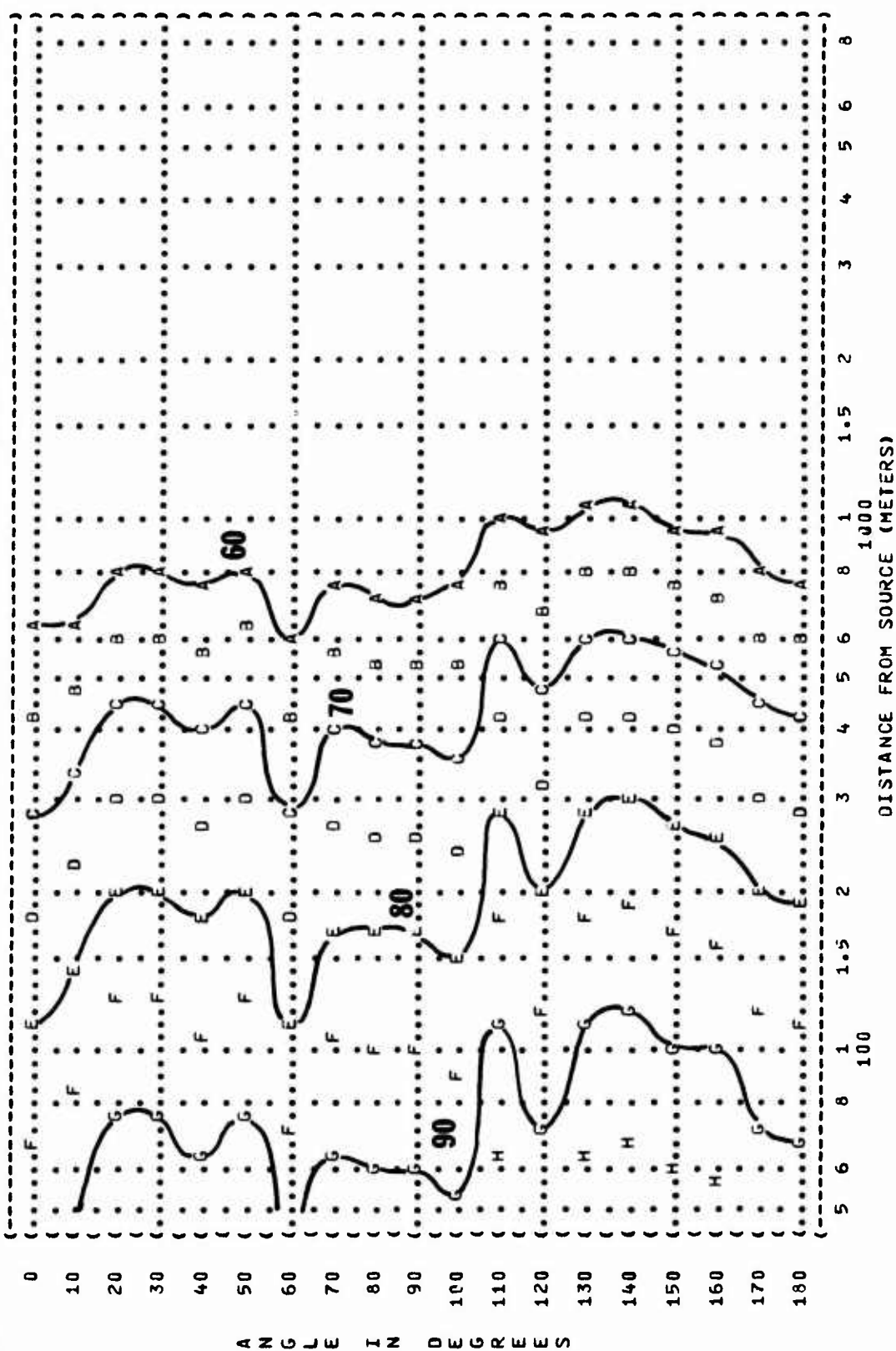
01 RUN

BAR PRESS = .760 M HG
REL HUMID = 70 %

(OPERATION:

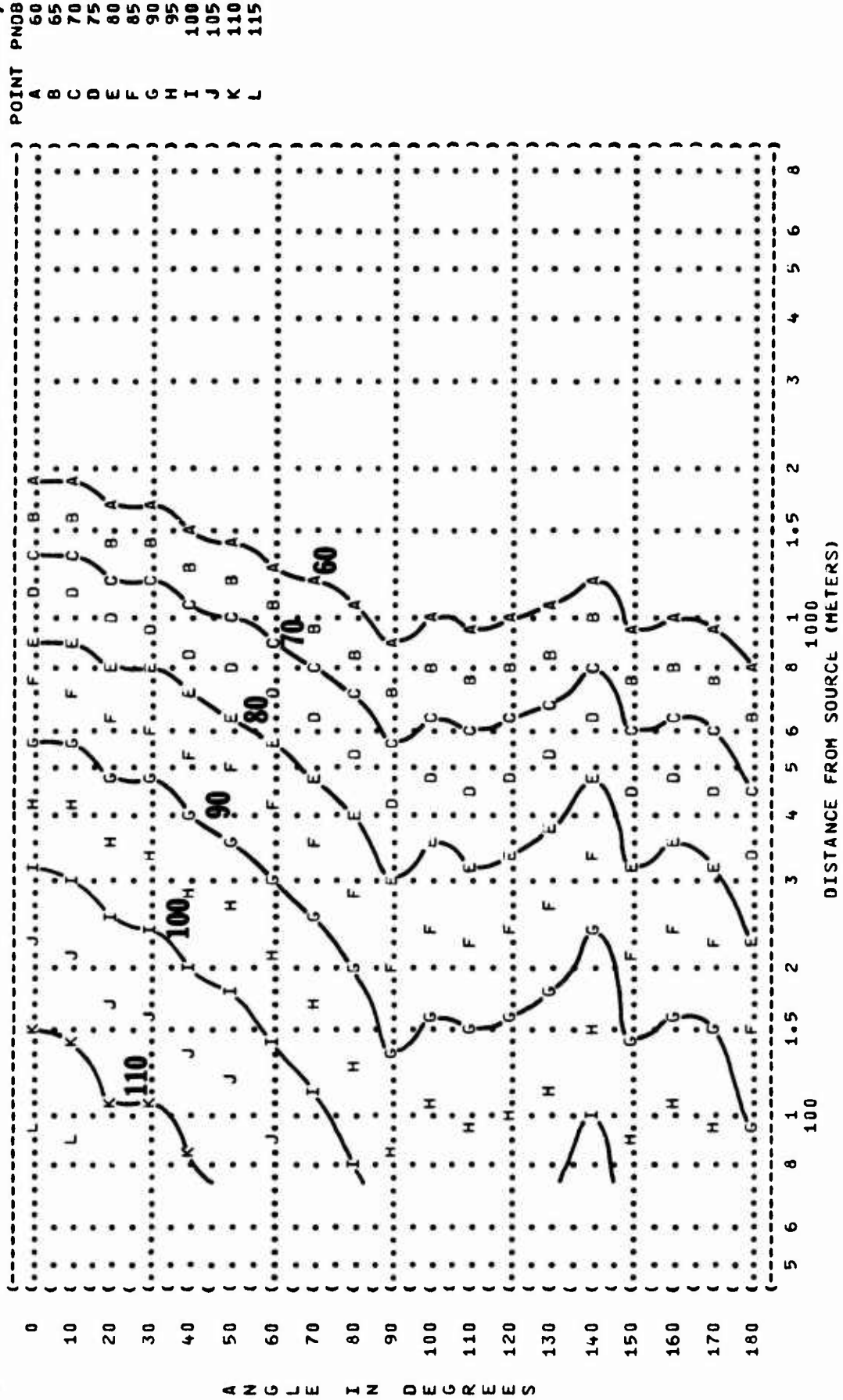
F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

POINT	A	B	C	D	E	F	G	H
PNOB	60	65	70	75	80	85	90	95

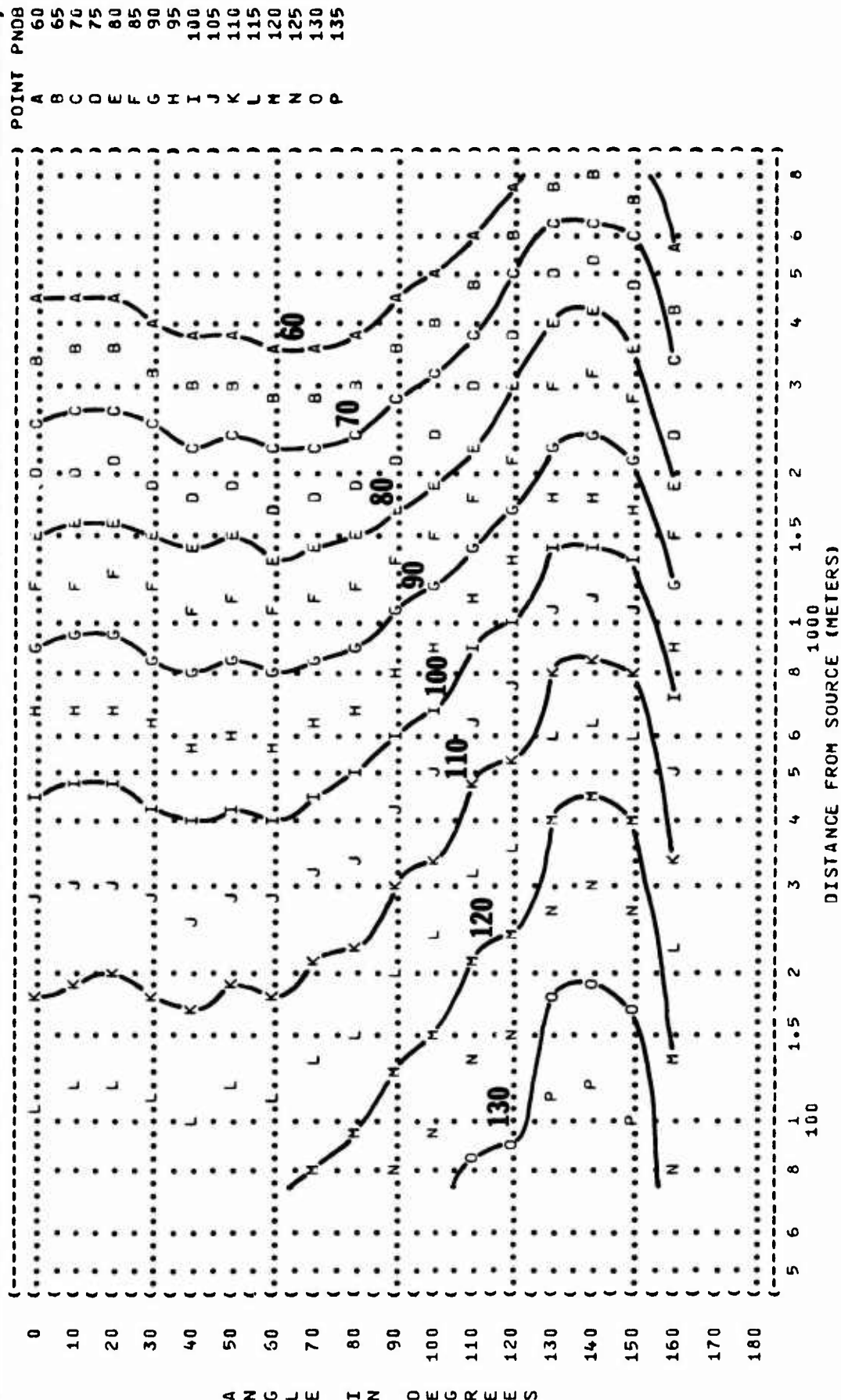


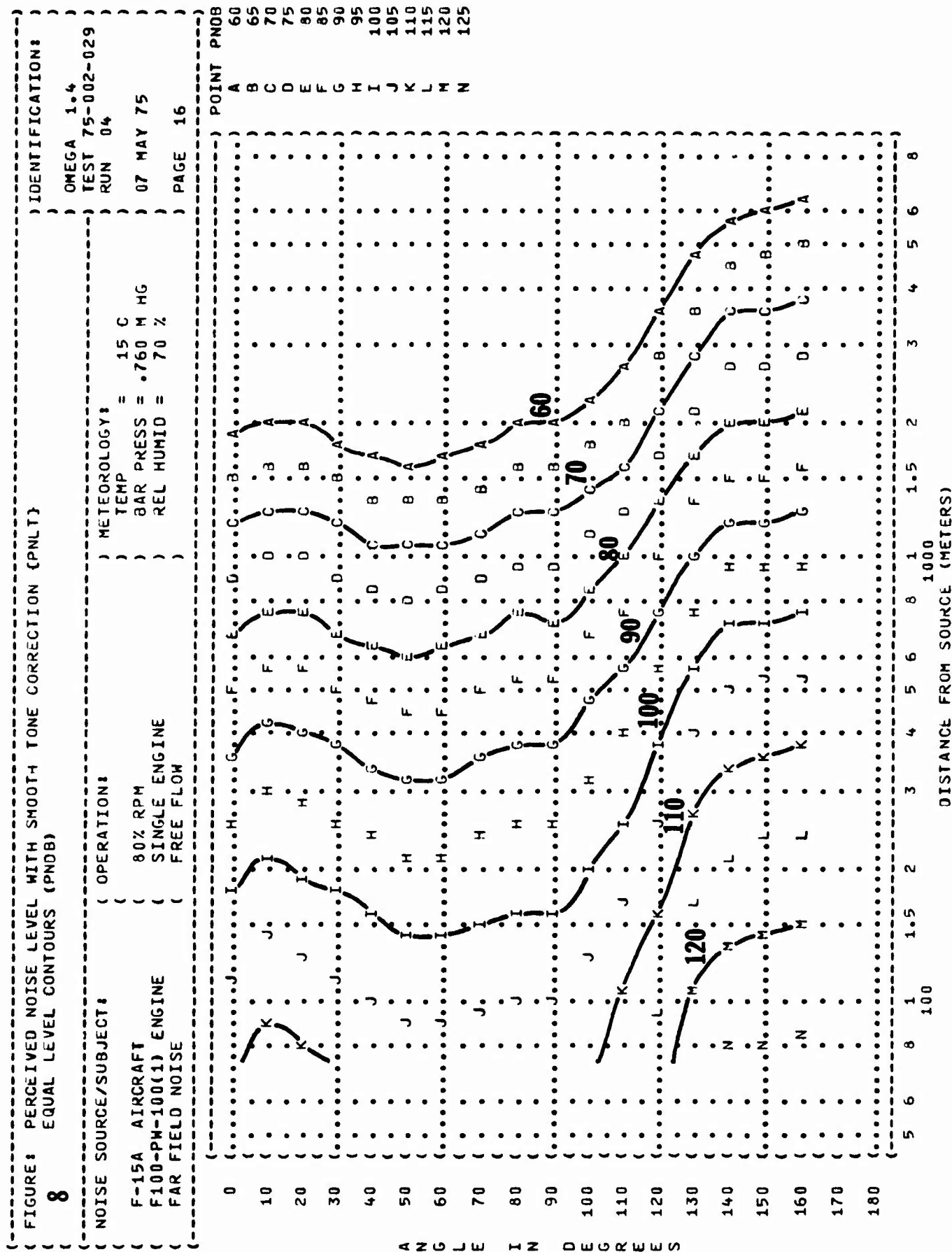
DISTANCE FROM SOURCE (METERS)

(FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
 (8
 (EQUAL LEVEL CONTOURS (PNDB)
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (IDLE POWER
 (F100-PW-100(1) ENGINE (60% RPM
 (FAR FIELD NOISE (BOTH ENGINES
 ((FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 01
 (PAGE 16



((FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION {PNLT}
((EQUAL LEVEL CONTOURS (PNDB)
((**8**
((NOISE SOURCE/SUBJECT: (OPERATION: (METEOROLOGY:
((F-15A AIRCRAFT (MILITARY POWER (TEMP = 15 C
((F100-PW-100(1) ENGINE (90% RPM (BAR PRESS = .760 M HG
((FAR FIELD NOISE (BOTH ENGINES (REL HUMID = 70 %
((FREE FLOW)))
((IDENTIFICATION:)))
((OMEGA 1.4)))
((TEST 75-002-029)))
((RUN 03)))
((07 MAY 75)))
((PAGE 16)))
((POINT PNDB)))
((A 60)))
((B 65)))
((C 70)))
((D 75)))
((E 80)))
((F 85)))
((G 90)))
((H 95)))
((I 100)))
((J 105)))
((K 110)))
((L 115)))
((M 120)))
((N 125)))
((O 130)))
((P 135)))





EQUAL LEVEL CONTOURS (PND8)

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-029

05 RUN

TEMP = 15 C

BAR PRESS = .760 H HG

REL HUMID = 70 %

OPERATION:

MILITARY POWER

(90% RPM

SINGLE ENGINE

FREE FLOW

ISE SOURCE/SUBJECT:

F-15A AIRCRAFT

F100-PW-100(1) ENGINE

FAR FIELD NOISE

) METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 H HG

REL HUMID = 70 %

OPERATION:

MILITARY POWER

(90% RPM

SINGLE ENGINE

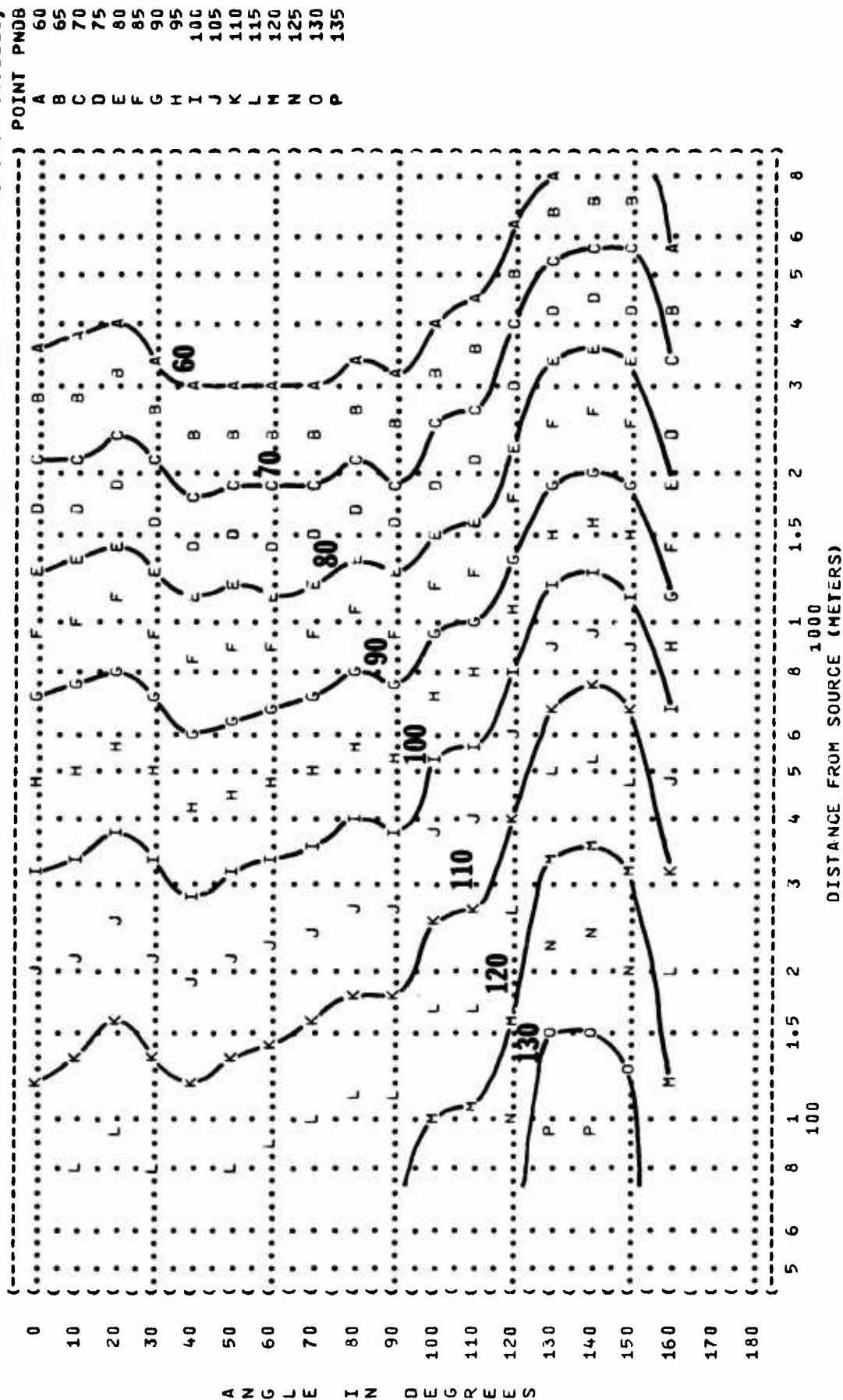
FREE FLOW

ISE SOURCE/SUBJECT:

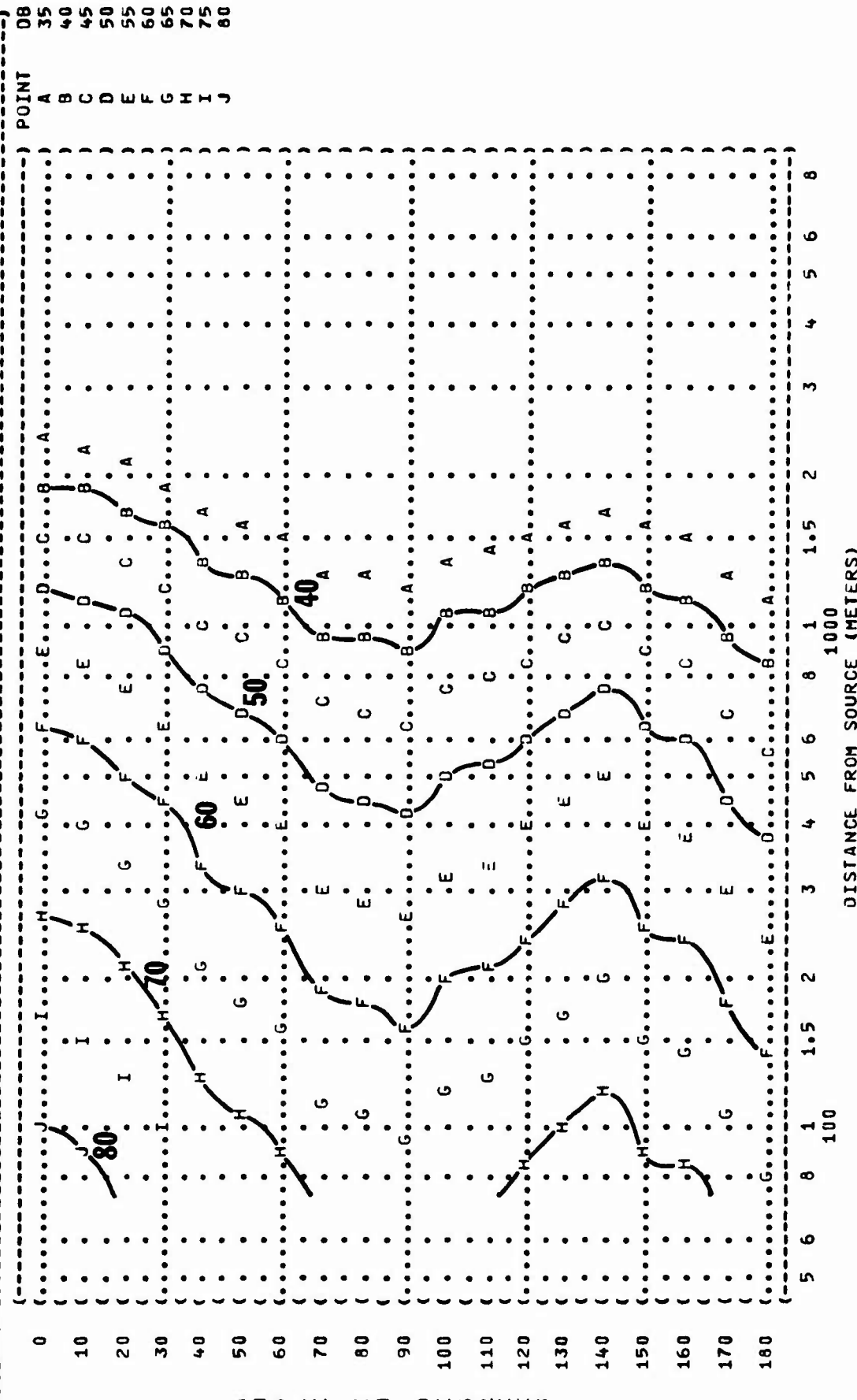
F-15A AIRCRAFT

F100-PW-100(1) ENGINE

FAR FIELD NOISE



(FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
 (9 EQUAL LEVEL CONTOURS (DB)
 () IDENTIFICATION:)
 () OMEGA 1.4
 () TEST 75-002-029
 () RUN 01
 (NOISE SOURCE/SUBJECT:) OPERATION:) METEOROLOGY:)
 () IDLE POWER) TEMP = 15 C
 (F-15A AIRCRAFT) 60% RPM) BAR PRESS = .760 M HG
 (F100-PW-100(1) ENGINE) BOTH ENGINES) REL HUMID = 70 %
 (FAR FIELD NOISE) FREE FLOW)
 () PAGE 17



A N G L E I N D E G R E E S

DISTANCE FROM SOURCE (METERS)

FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:

6

OMEGA 1.4

TEST 75-002-029

RUN 03

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

PAGE 17

OPERATIONS

MILITARY POWER

90% RPM

BOTH ENGINES

FREE FLOW

NOISE SOURCE/SUBJECT:

F-15A AIRCRAFT

F100-PW-100(1)

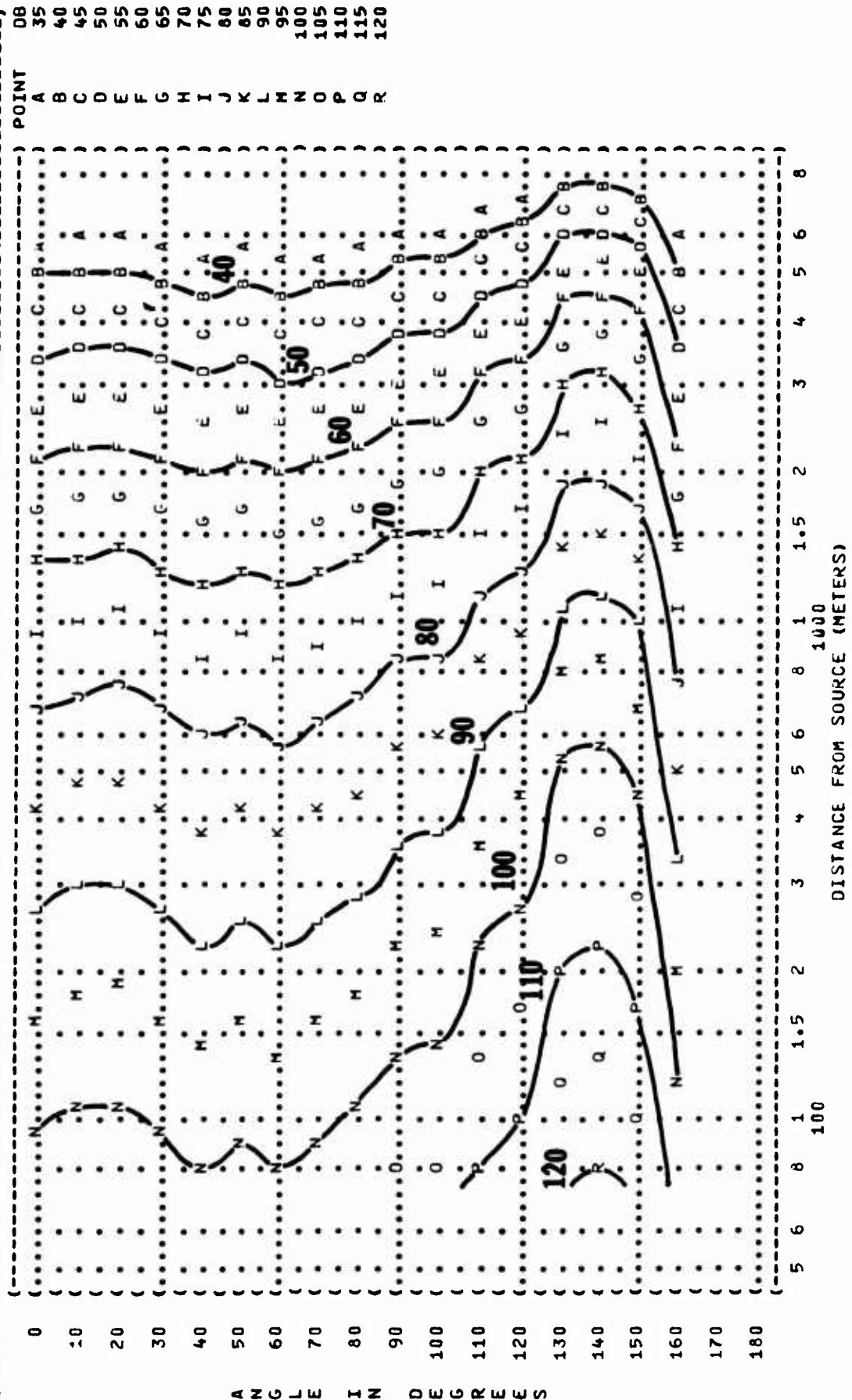
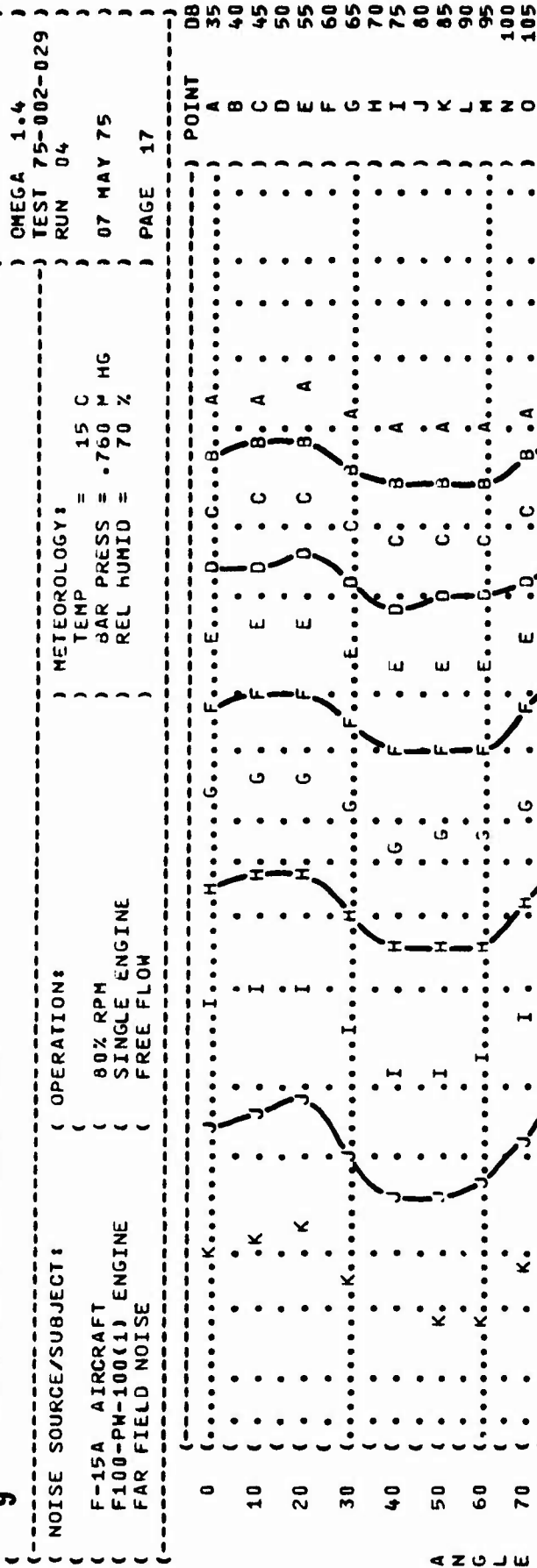


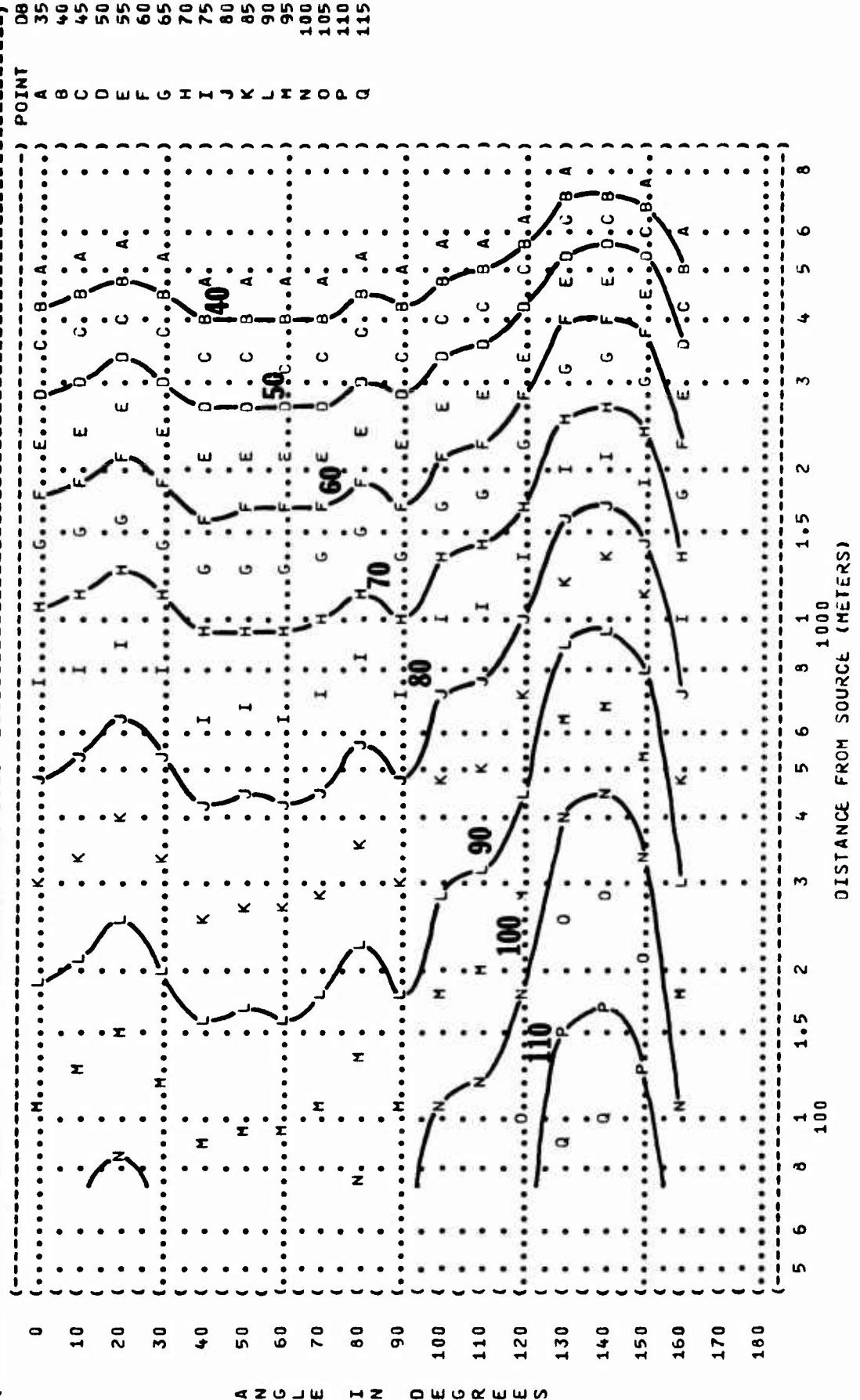
FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)



A N G L E I N D E G R E E S

DISTANCE FROM SOURCE (METERS)

((FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
 ((9 EQUAL LEVEL CONTOURS (DB)
 (() IDENTIFICATION:)
 (() OMEGA 1.4
 (() TEST 75-002-029)
 (() RUN 05)
 (() METEOROLOGY:)
 (() TEMP = 15 C)
 (() BAR PRESS = .760 M HG)
 (() REL HUMID = 70 %)
 (() OPERATION:)
 (() MILITARY POWER)
 (() 90% RPM)
 (() SINGLE ENGINE)
 (() FREE FLOW)
 (() NOISE SOURCE/SUBJECT:)
 (() F-15A AIRCRAFT)
 (() F100-PW-100(1) ENGINE)
 (() FAR FIELD NOISE)
 (() PAGE 17)



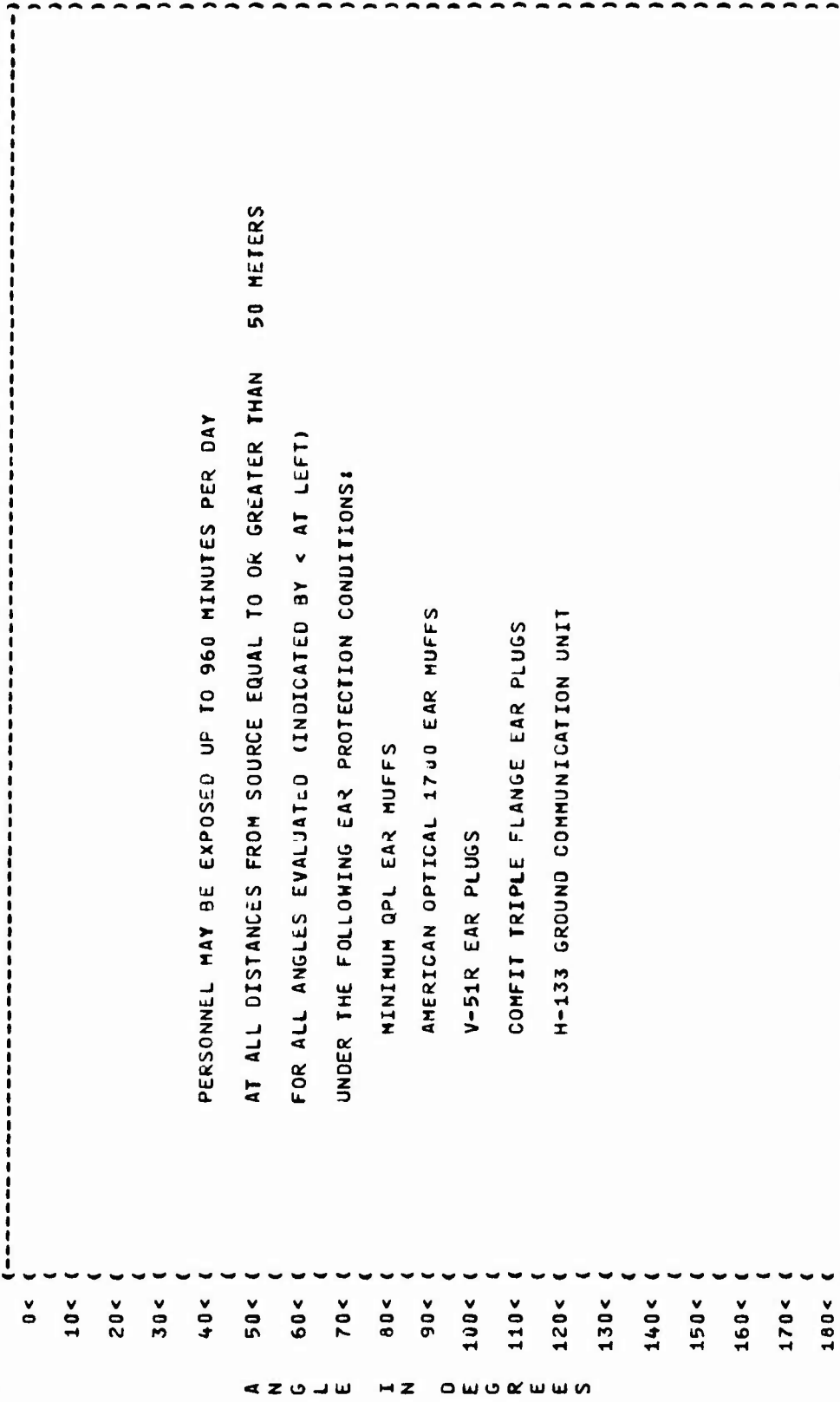
A N G L E I N D E G R E E S

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
 EQUAL TIME CONTOURS (MINUTES)

10

NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 (((TEMP = 15 C)
 (F-15A AIRCRAFT (ENGINES OFF) BAR PRESS = .760 M HG)
 (F100-PW-100(1) ENGINE (JET FUEL STARKER ON) REL HUMID = 70 %)
 (FAR FIELD NOISE (FREE FLOW)))

IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-052
 RUN 01
 13 MAY 75
 PAGE 6



5 6 8 1 1.5 2 3 4 5 6 8 1 1.5 2 3 4 5 6 8
 100
 1000
 DISTANCE FROM SOURCE (METERS)

FIGURE: MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

10

(	NOISE SOURCE/SUBJECT:	(	OPERATION:	)	METEOROLOGY:	)	TEST 75-002-029
(		(	IDLE POWER	)		)	RUN 01
(	F-15A AIRCRAFT	(	60% RPM	)	TEMP = 15 C)	
(	F100-PW-100(1) ENGINE	(	30TH ENGINES	)	BAR PRESS = .760 M HG	)	07 MAY 75
(	FAR FIELD NOISE	(	FREE FLOW	)	REL HUMID = 70 %	)	PAGE 7

[illegible]

A Z U L E I N D E U R E W S

1000
DISTANCE FROM SOURCE (METERS)

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

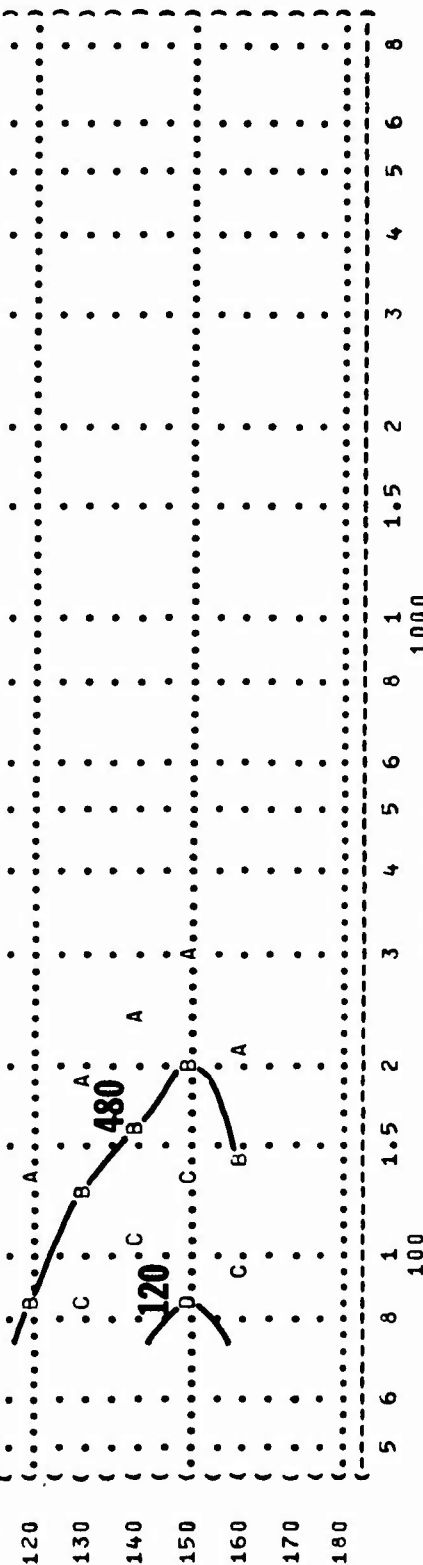
10
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 (F-15A AIRCRAFT (80% RPM) TEMP = 15 C)
 (F100-PW-100(1) ENGINE (BOTH ENGINES) BAR PRESS = .700 M HG)
 (FAR FIELD NOISE (FREE FLOW) REL HUMID = 70 %)

IDENTIFICATION:)
 OMEGA 1.4
 TEST 75-002-029
 RUN 02
 07 MAY 75
 PAGE 11

POINT MIN
A 960
B 480
C 240
D 120

A N G L E I N D E G R E E S



DISTANCE FROM SOURCE (METERS)

(FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 1b1-35, JULY 73)) IDENTIFICATION:)
 (10 EQUAL TIME CONTOURS (MINUTES)))
 (H-133 GROUND COMMUNICATION UNIT))
 (NOISE SOURCE/SUBJECT:) OPERATION:) METEOROLOGY:)
 (F-15A AIRCRAFT) (80% RPM) TEMP = 15 C)
 (F100-PW-100(1) ENGINE) (BOTH ENGINES) BAK PRESS = .760 M HG)
 (FAR FIELD NOISE) (FREE FLOW) REL HUMID = 70 %)
 () () RUN 02)
 () () 07 MAY 75)
 () () PAGE 12)
 () POINT MIN)
 () A 960)
 () B 480)
 () C 240)

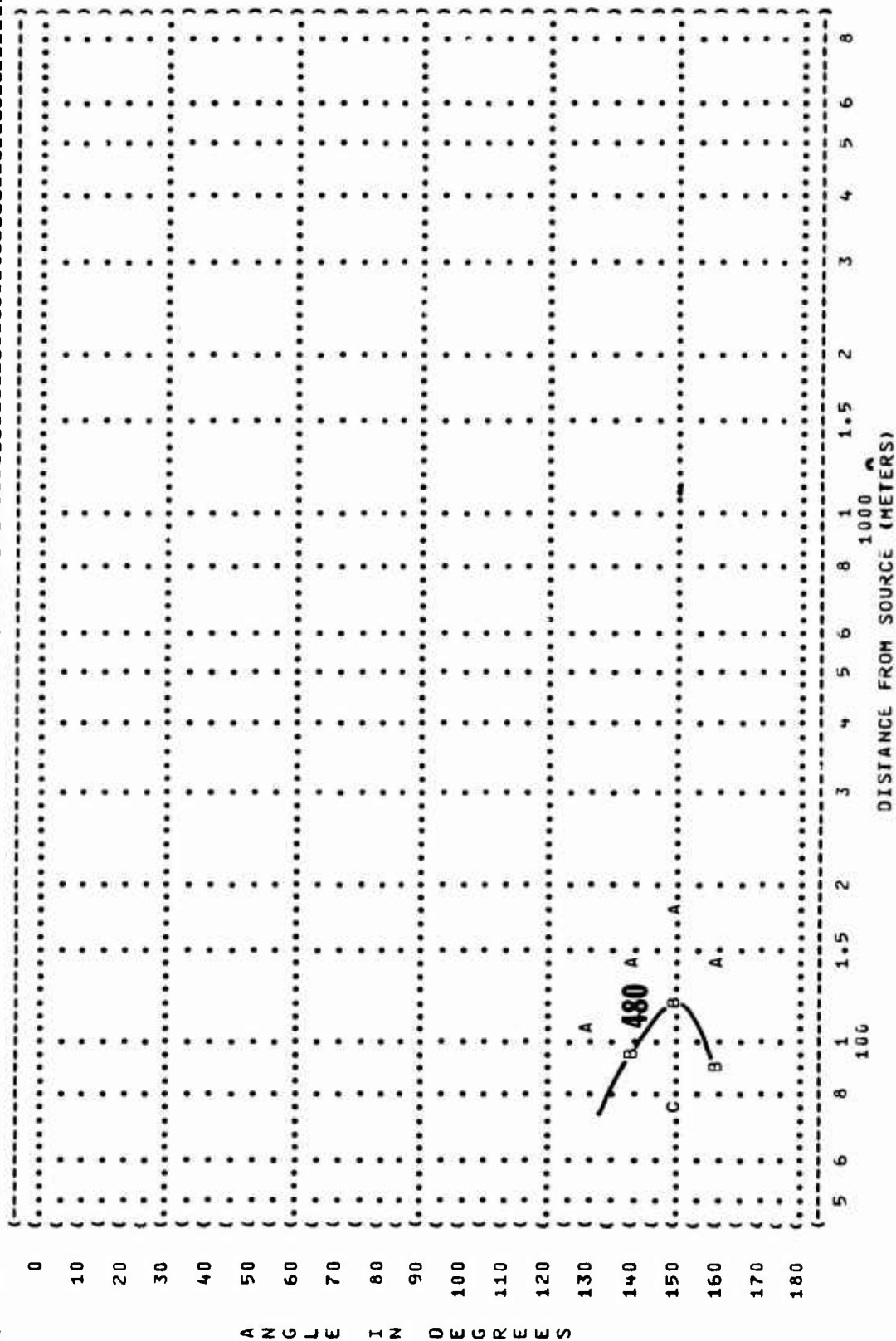


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10 EQUAL TIME CONTOURS (MINUTES)

MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT:

OPERATION:

METEOROLOGY:

MILITARY POWER

F-15A AIRCRAFT

90% RPM

TEMP = 15 C

F100-PW-100(1) ENGINE

BOTH ENGINES

BAR PRESS = .760 M HG

FREE FLOW

REL HUMID = 70 %

PAGE 8

IDENTIFICATION:

OMEGA 1.4

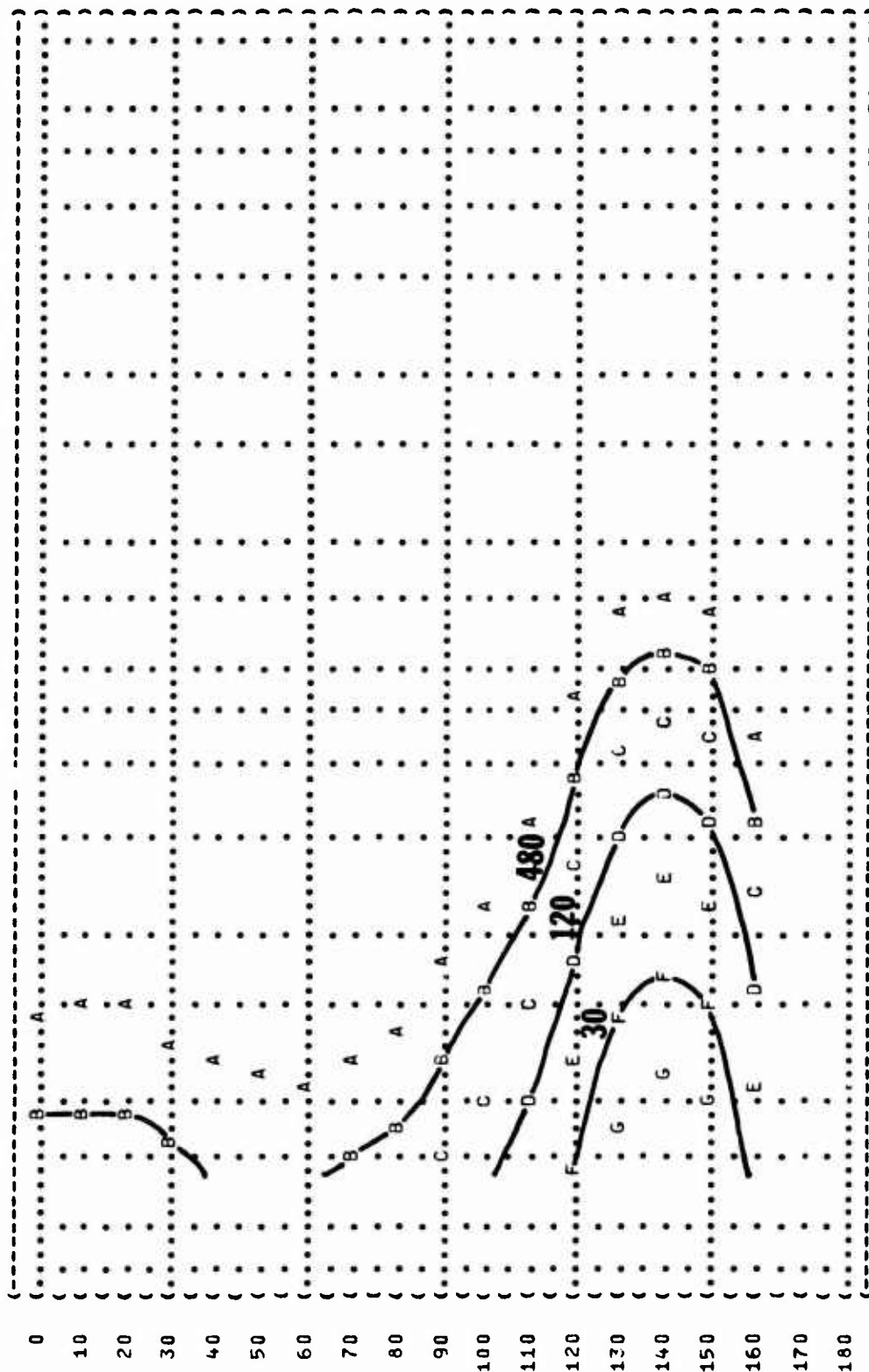
TEST 75-002-029

RUN 03

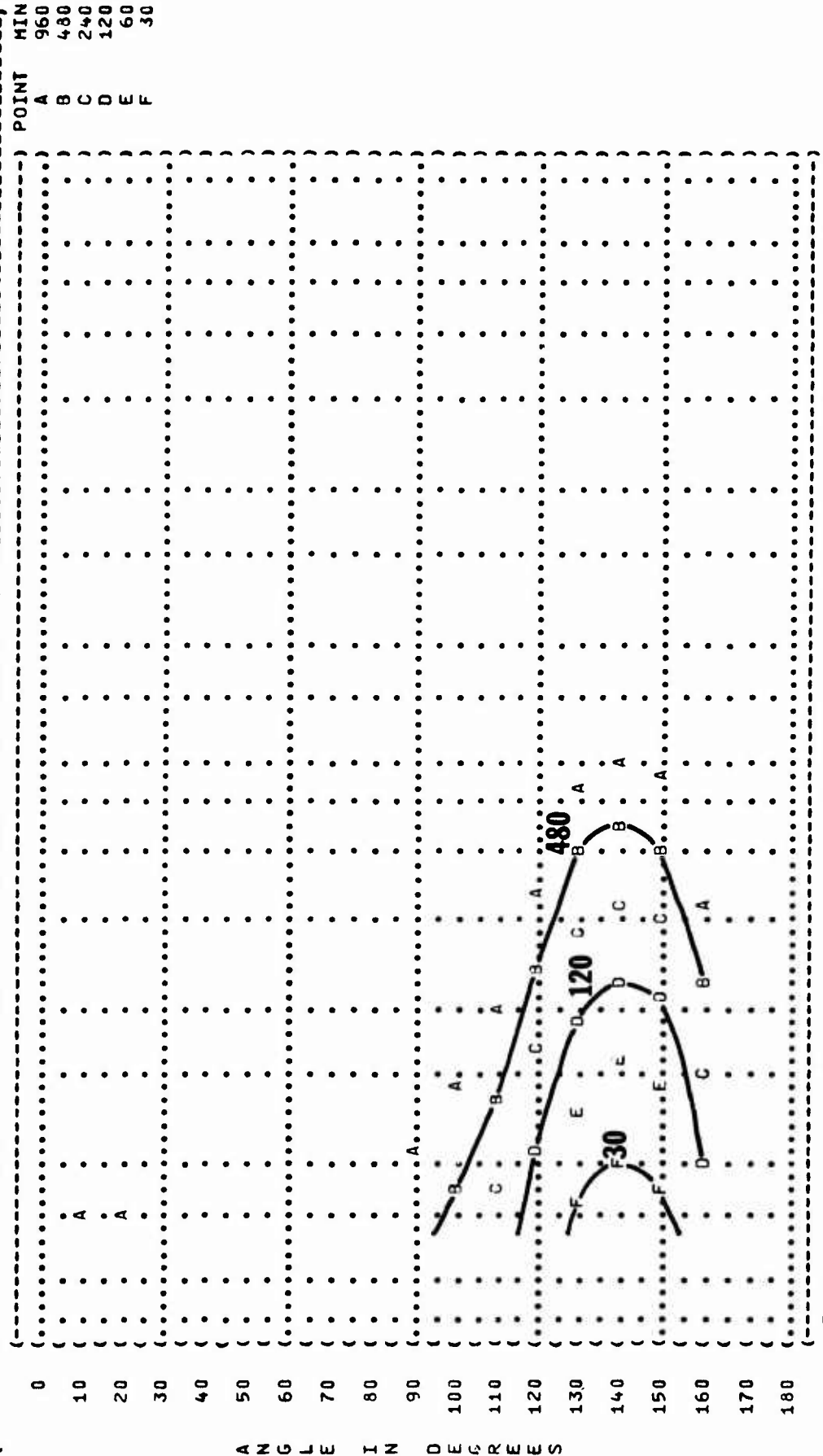
07 MAY 75

POINT MIN
A 960
B 480
C 240
D 120
E 60
F 30
G 15

ALIGNED EG REES



(FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)) IDENTIFICATION:)
 (EQUAL TIME CONTOURS (MINUTES)))
 (10 AMERICAN OPTICAL 1700 EAR MUFFS))
 (NOISE SOURCE/SUBJECT:))
 (F-15A AIRCRAFT))
 (F100-PW-100(1) ENGINE))
 (FAR FIELD NOISE))
 (OPERATION:))
 (MILITARY POWER))
 (90% RPM))
 (BOTH ENGINES))
 (FREE FLOW))
 (METEOROLOGY:))
 (TEMP = 15 C))
 (BAR PRESS = .760 M HG))
 (REL HUMID = 70 %))
 (07 MAY 75))
 (PAGE 9))
 (TEST 75-002-029))
 (RUN 03))
 (OMEGA 1.4))



ANGLE IN DEGREES

DISTANCE FROM SOURCE (METERS)

FIGURE 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

NOISE SOURCE/SUBJECT:

OPERATION:

GENERATION:

—

TEOROLOGY:

1231 130
RUN 03

IL31 13 002-023
RUN 03

1231 13 03
RUN 03

1231 130
RUN 03

1231 13 03
RUN 03

F-15A AIRCRAFT

90% RPM

90% RPM

—

BAR PRESS = .760 M HG

07 MAY 75

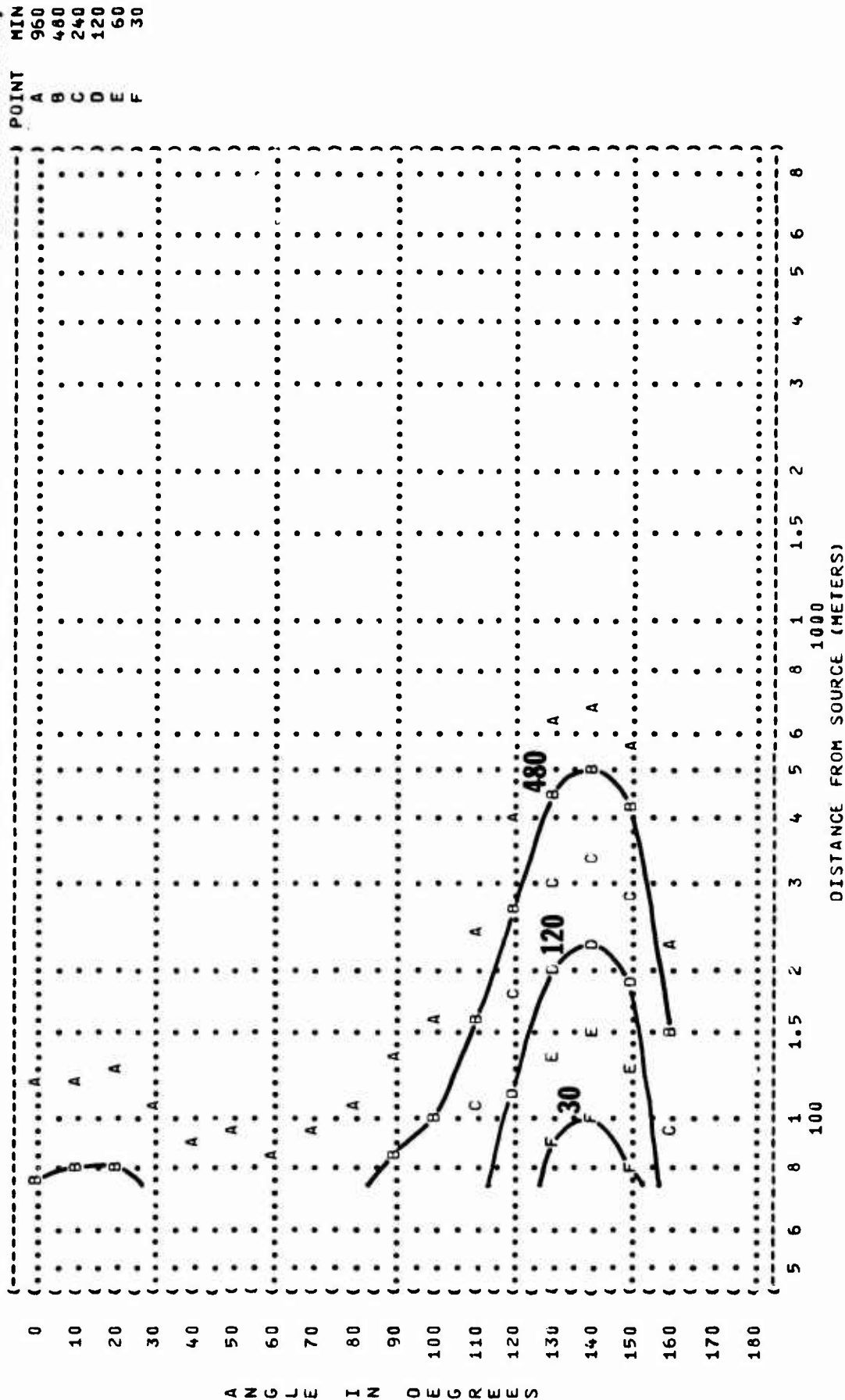


FIGURE 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

```
(-----)
( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION:
( EQUAL TIME CONTOURS (MINUTES) )
( MINIMUM QPL EAR MUFFS ) OMEGA 1.4
( NOISE SOURCE/SUBJECT: ) TEST 75-002-029
( OPERATION: ) RUN 05
( MILITARY POWER )
( 90% RPM ) BAR PRESS = 15 C
( SINGLE ENGINE ) REL HUMID = .760 M HG
( FREE FLOW ) 70 %
( F-15A AIRCRAFT )
( F100-PW-100(1) ENGINE )
( FAR FIELD NOISE ) PAGE 8
(-----)
```

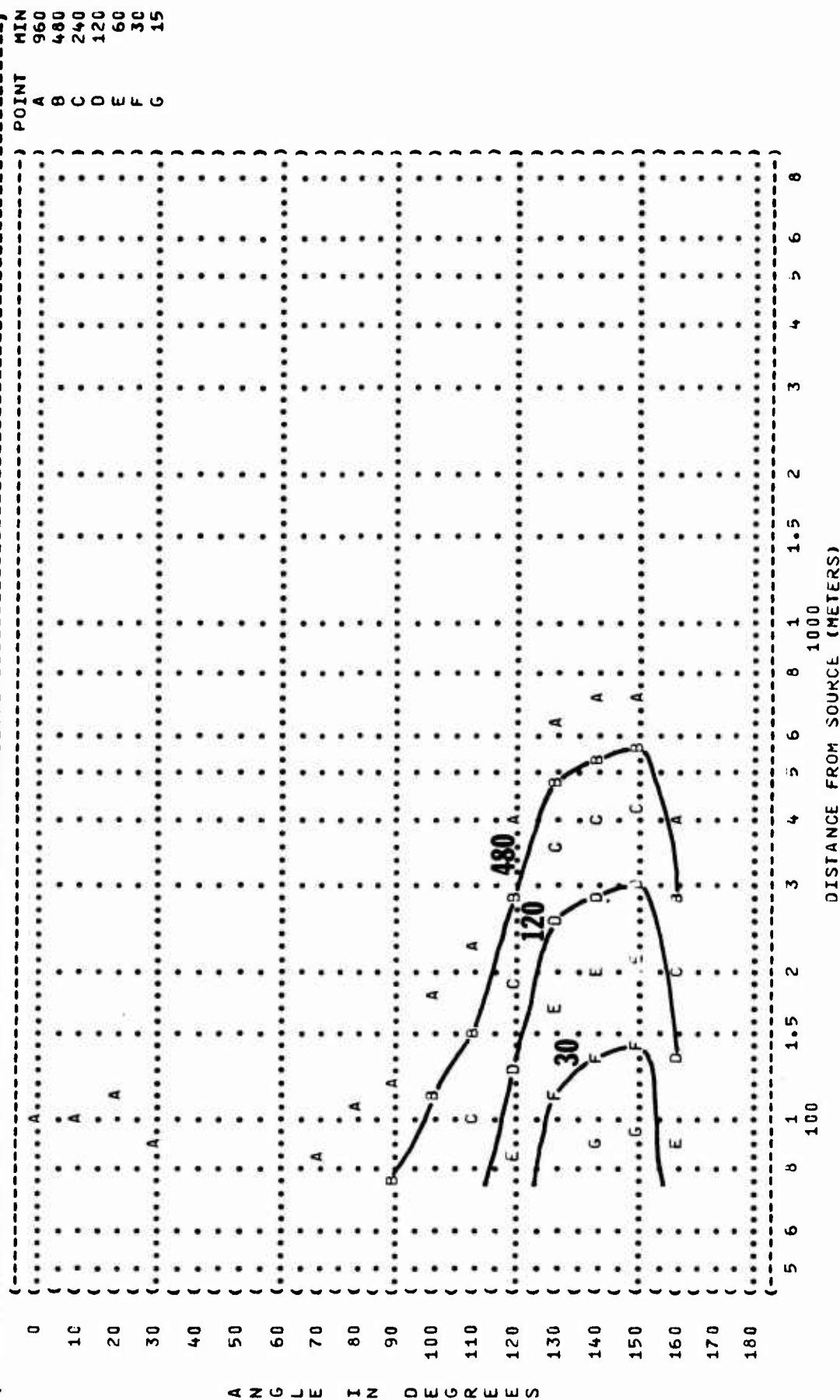


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10 COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT: OPERATION: MILITARY POWER

F-15A AIRCRAFT 90% RPM

F100-PW-100(1) ENGINE SINGLE ENGINE

FAR FIELD NOISE FREE FLOW

METEOROLOGY: TEMP = 15 C

BAK PRESS = .760 M HG

REL HUMID = 70 %

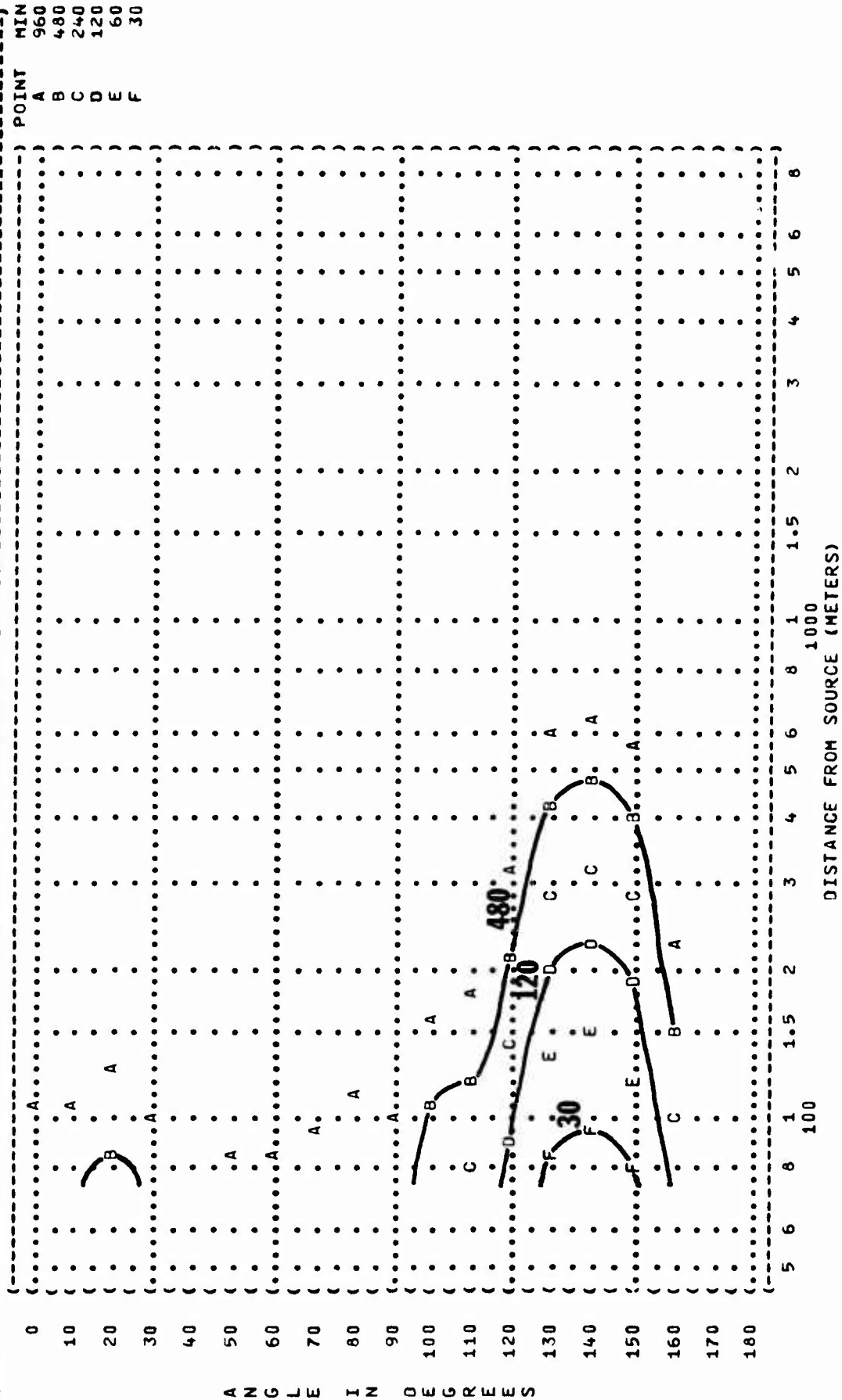
IDENTIFICATION: OMEGA 1.4

TEST 75-002-029

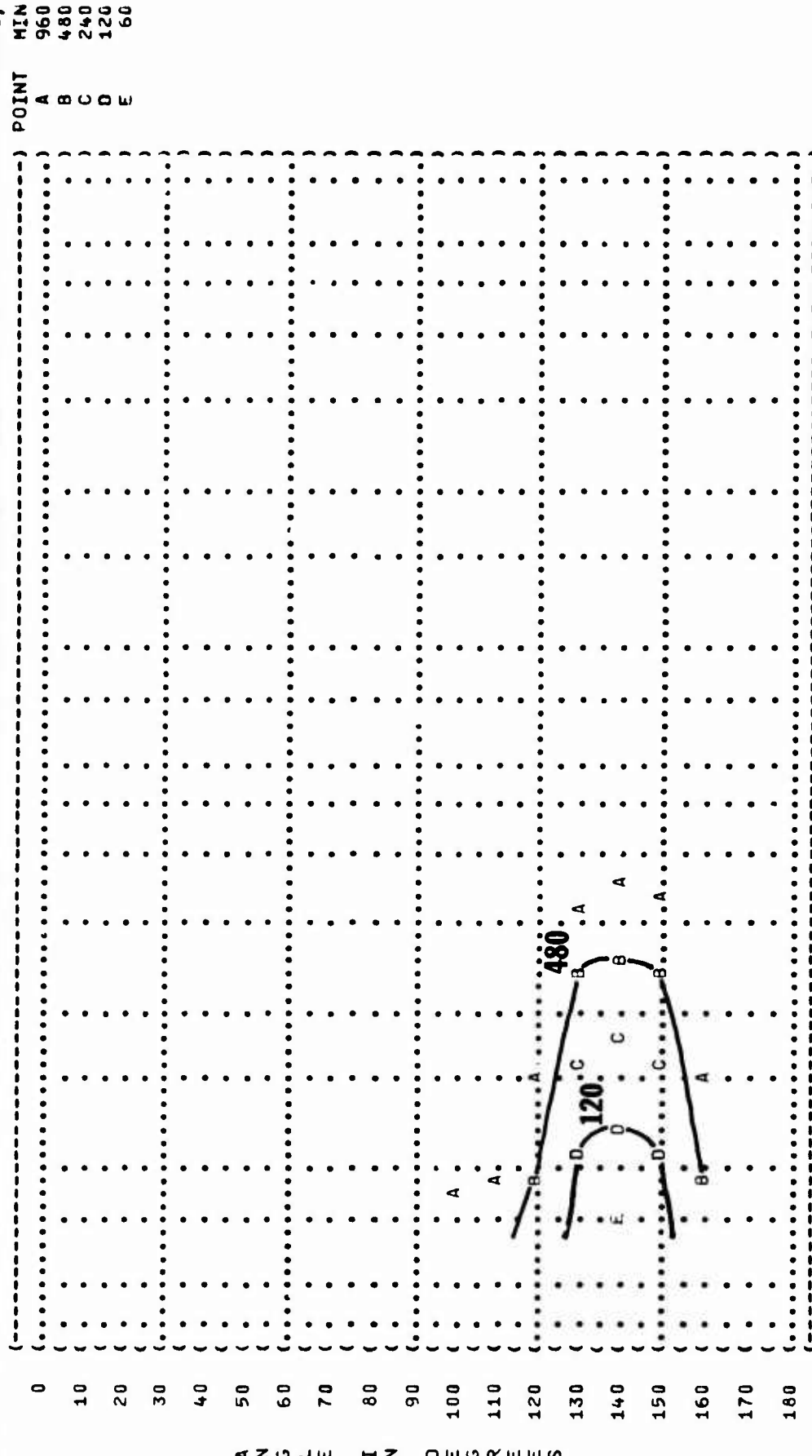
RUN 05

07 MAY 75

PAGE 11



(FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)) IDENTIFICATION:)
 (10 EQUAL TIME CONTOURS (MINUTES)))
 (H-133 GROUND COMMUNICATION UNIT))
 (NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 ((MILITARY POWER) TEMP = 15 C)
 (F-15A AIRCRAFT (90% RPM) BAR PRESS = .750 M HG)
 (F100-PW-100(1) ENGINE (SINGLE ENGINE) REL HUMID = 70 %)
 (FAR FIELD NOISE (FREE FLOW)) PAGE 12)



[illegible]

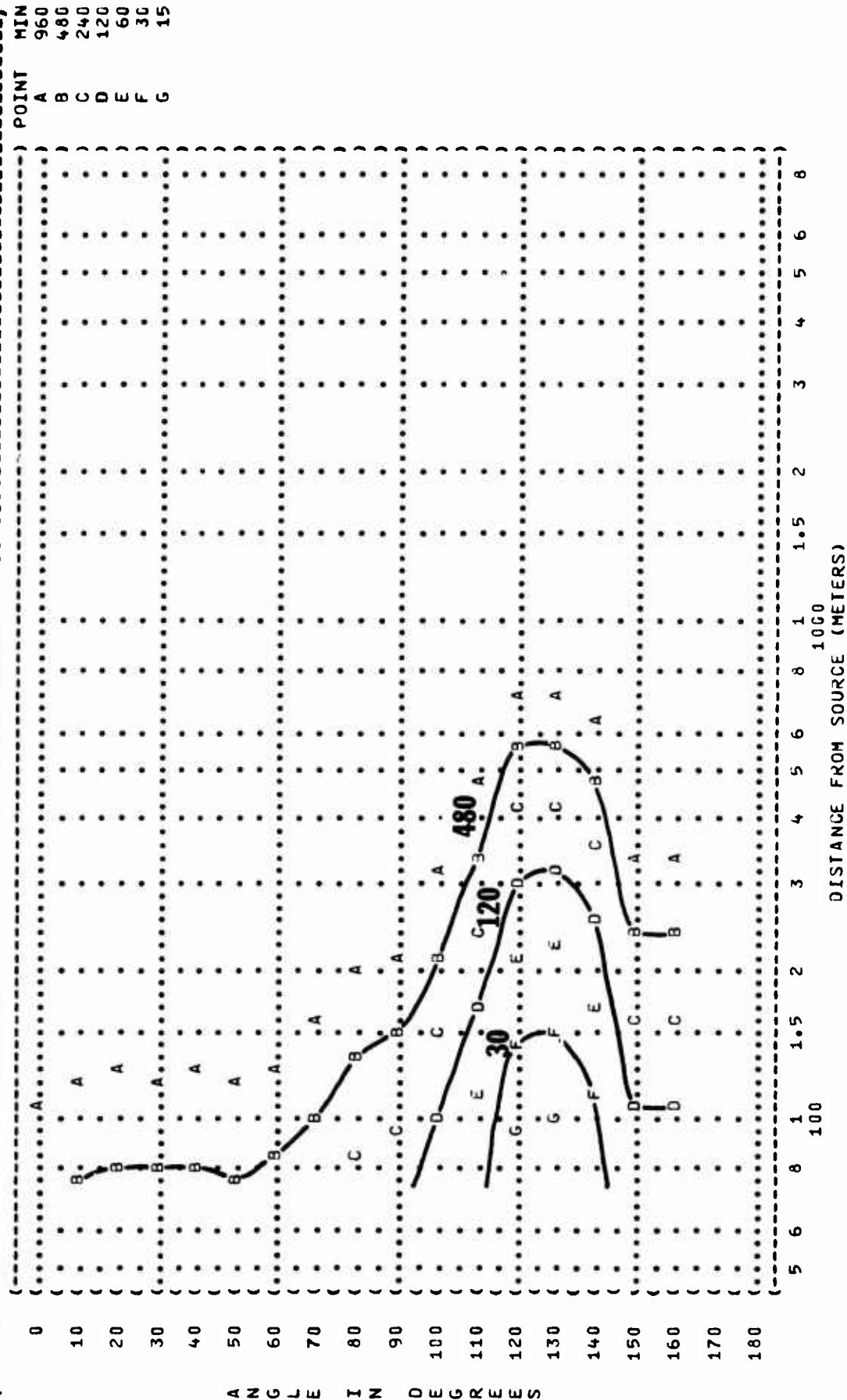
[illegible]

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10 EQUAL TIME CONTOURS (MINUTES)

V-51R EAR PLUGS

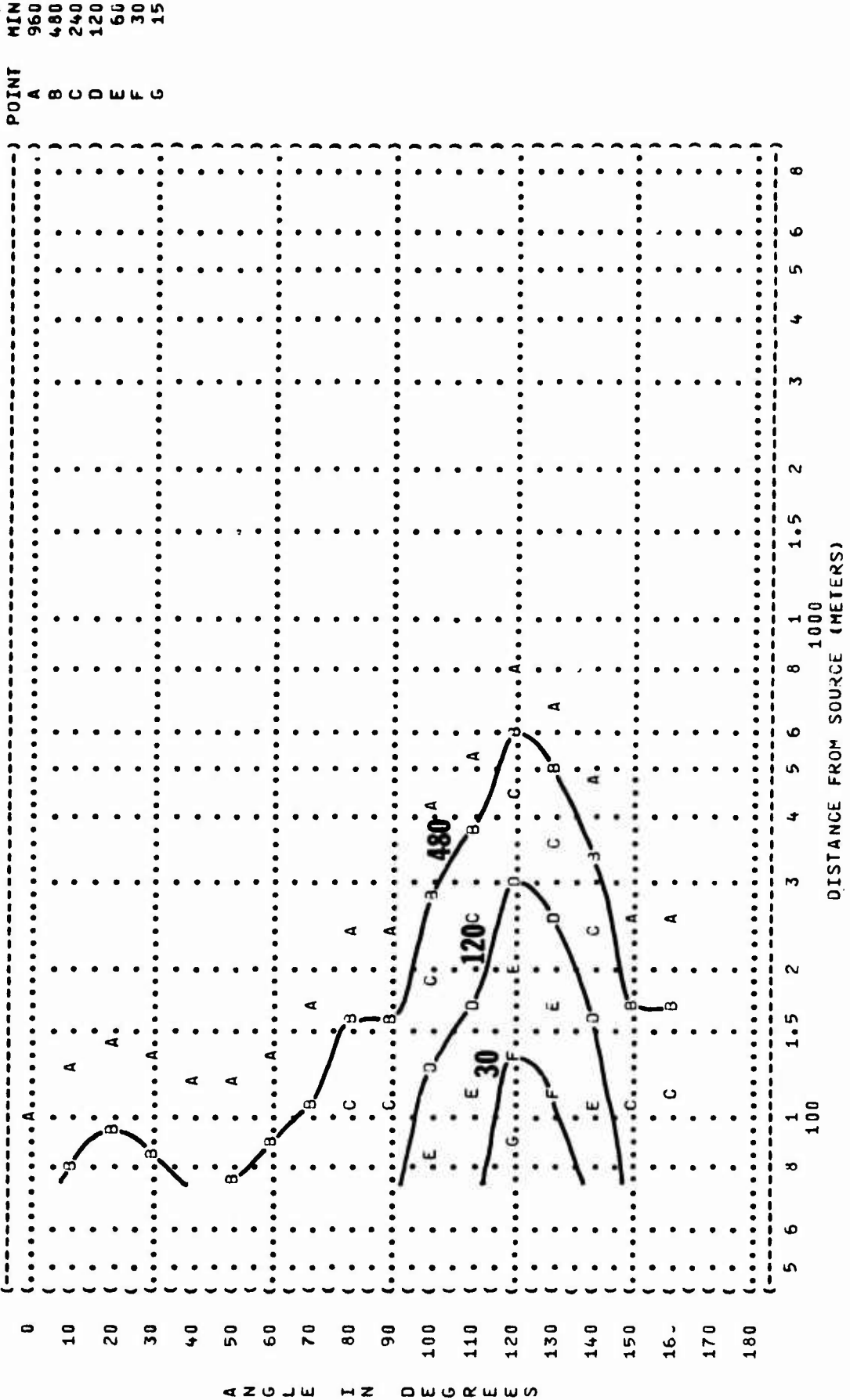
NOISE SOURCE/SUBJECT: () OPERATION: () METEOROLOGY: () IDENTIFICATION: ()

() F-15A AIRCRAFT () AFTERBURNER, ZONE 5 () TEMP = 15 C () OMEGA 1.4

() F100-PW-100(1) ENGINE () 90% RPM () BAR PRESS = .760 H HG () TEST 75-002-029

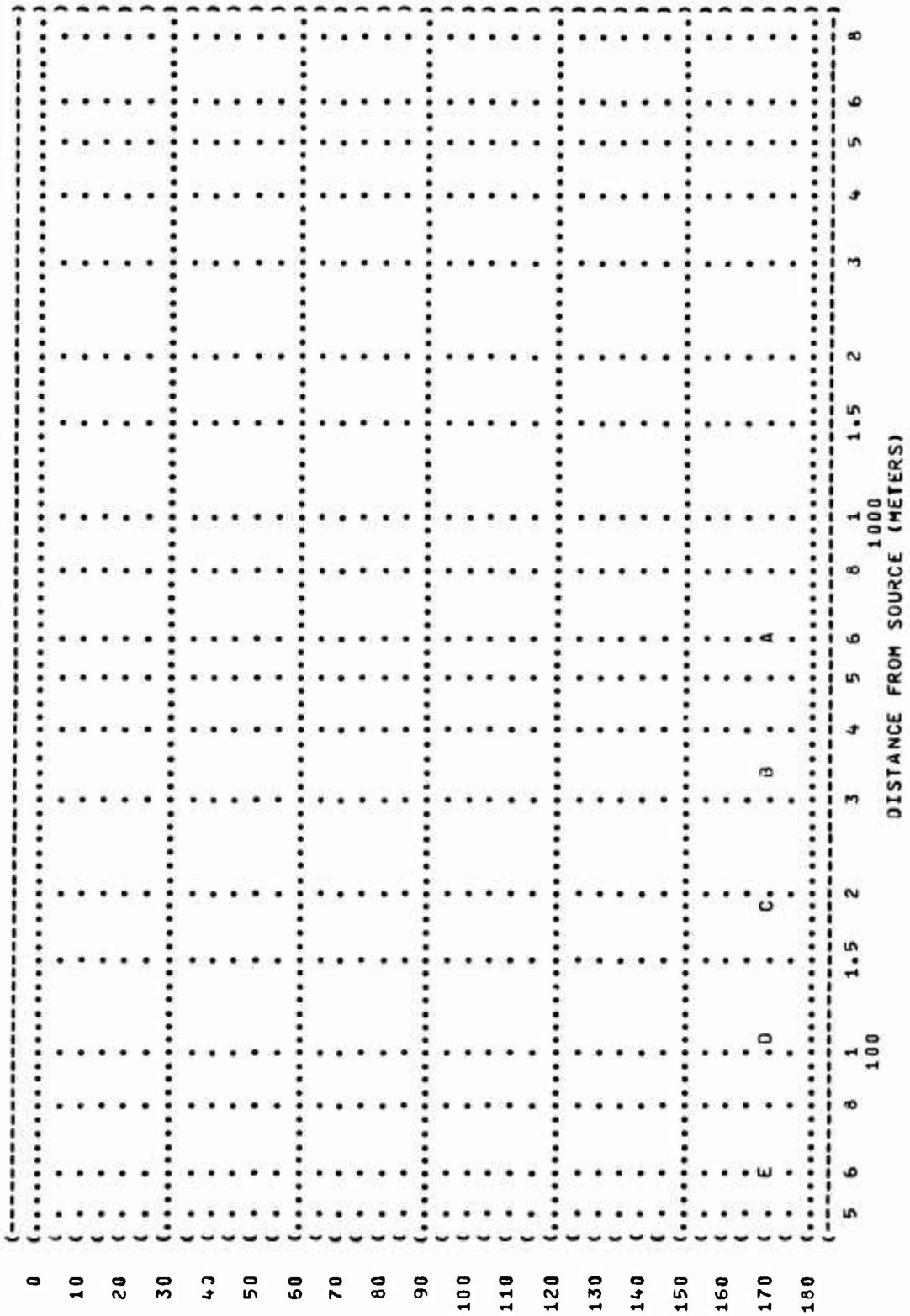
() FAR FIELD NOISE () SINGLE ENGINE () REL HUMID = 70 % () RUN 06

() () FREE FLOW () () PAGE 10



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (EQUAL LEVEL CONTOURS (DB))
 (11 31.5 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (F-15A AIRCRAFT)
 (F100-PW-100(1) ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (ENGINES OFF)
 (JET FUEL STARTER ON)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-052)
 (RUN 01)
 (13 MAY 75)
 (PAGE 16)
 (POINT DB)
 (A 35)
 (B 40)
 (C 45)
 (D 50)
 (E 55)


A N G L E I N D E G R E E S



IDENTIFICATION:
OMEGA 1.4
TEST 75-002-05
RUN 01
13 MAY 75
PAGE 18

) METEOROLOGY:
) TEMP
) BAR PRESS
) REL HUMID
)

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	A	B	C	D	E	F	G	H
-------	---	---	---	---	---	---	---	---



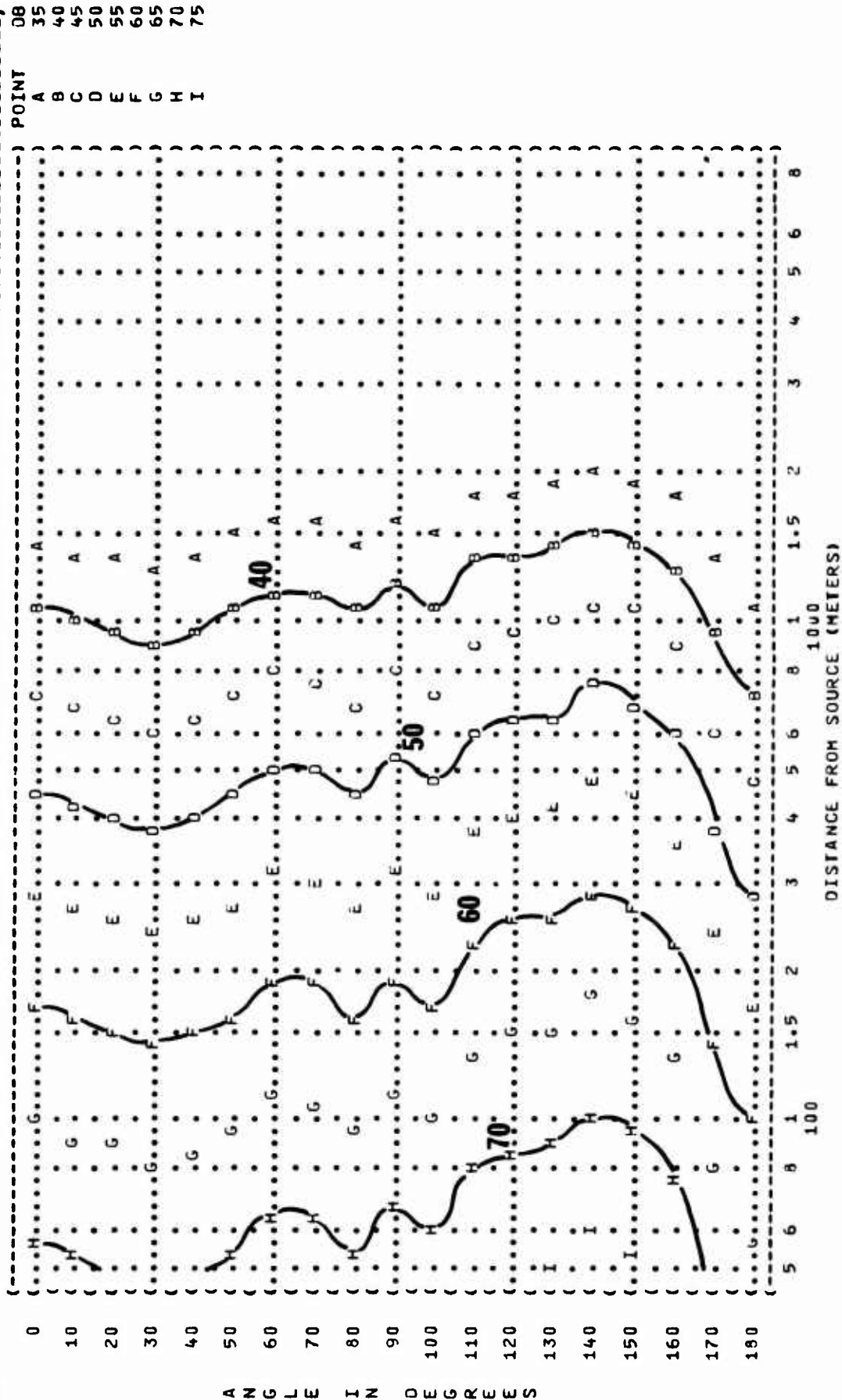
(FIGURE: SOUND PRESSURE LEVEL (SPL)
(EQUAL LEVEL CONTOURS (DB)
(11 250 HZ OCTAVE BAND
(
(NOISE SOURCE/SUBJECT:
(
(F-15A AIRCRAFT
(F100-PW-100(1) ENGINE
(FAR FIELD NOISE
(
(OPERATION:
(
(ENGINES OFF
(JET FUEL STARTER ON
(FREE FLOW
(
(METEOROLOGY:
(TEMP = 15 C
(BAR PRESS = .760 M HG
(REL HUMID = 70 %
(
(IDENTIFICATION:
(
(OMEGA 1.4
(
(TEST 75-002-052
(RUN 01
(
(13 MAY 75
(
(PAGE 19
(

METEOROLOGY:

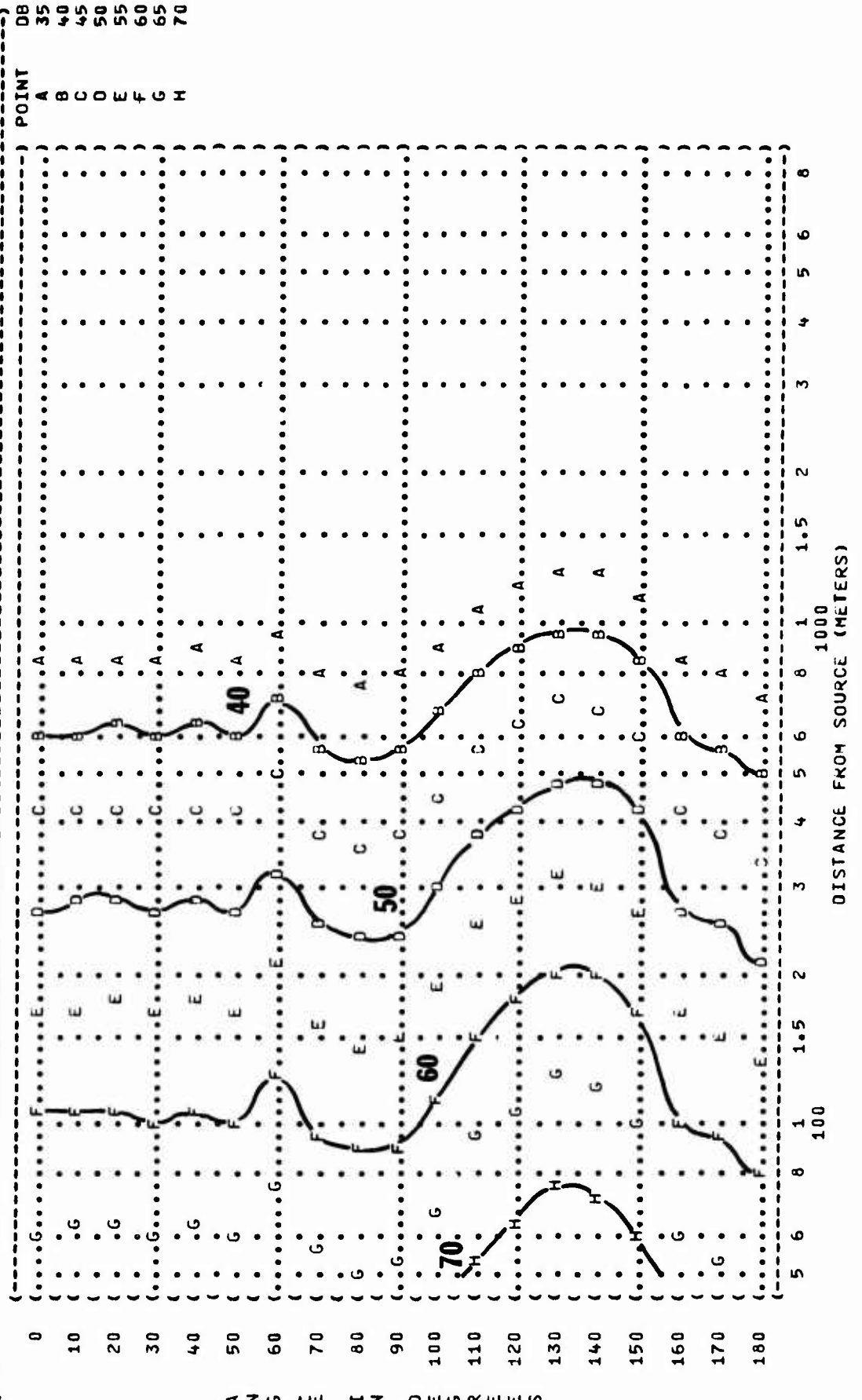
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



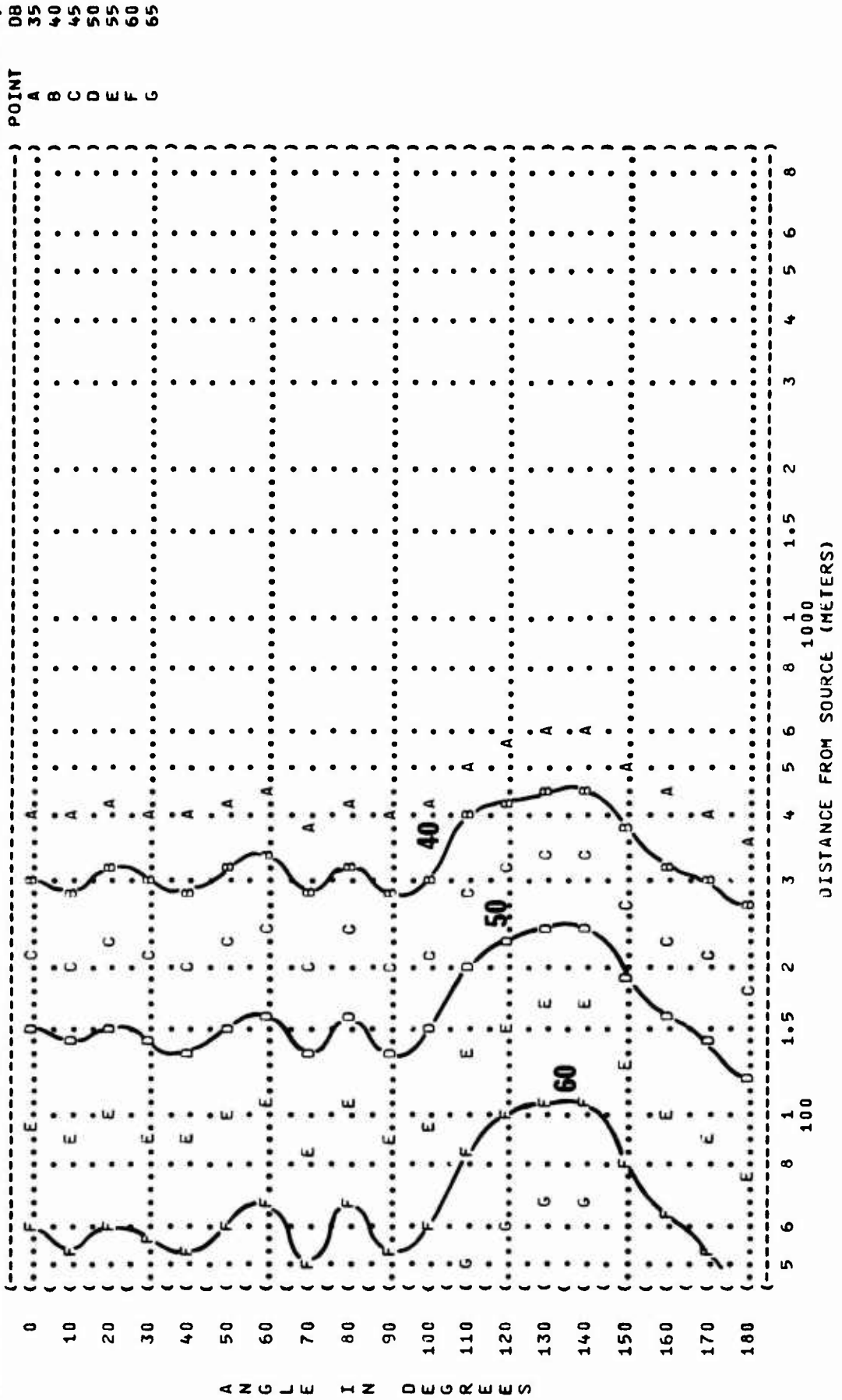
(FIGURE: SOUND PRESSURE LEVEL {SPL}
 (EQUAL LEVEL CONTOURS (DB)
 (**11** 1000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (ENGINES OFF
 (F100-PM-100(1) ENGINE (JET FUEL STARTER ON
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-052
 (RUN 01
 (13 MAY 75
 (PAGE 21



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (EQUAL LEVEL CONTOURS (DB))
 (11 2000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (F-15A AIRCRAFT)
 (F100-PW-100(1) ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (ENGINES OFF)
 (JET FUEL STARTER ON)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-052)
 (RUN 01)
 (13 MAY 75)
 (PAGE 22)

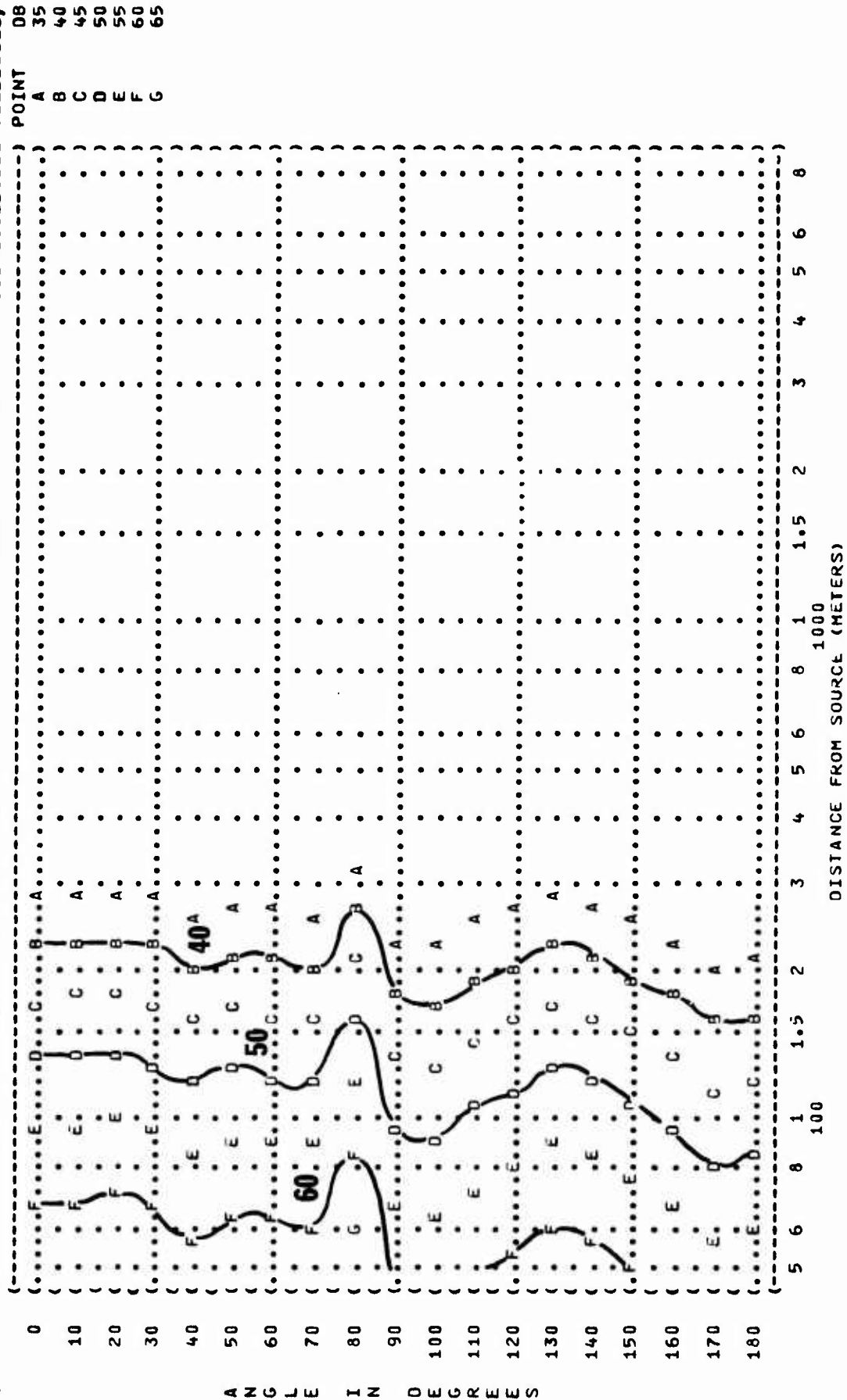


(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (4000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT: (OPERATION:))
 (F-15A AIRCRAFT (ENGINES OFF))
 (F100-PW-100(1) ENGINE (JET FUEL STARKER ON))
 (FAR FIELD NOISE (FREE FLOW))
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-052)
 (RUN 01)
 (13 MAY 75)
 (PAGE 23)

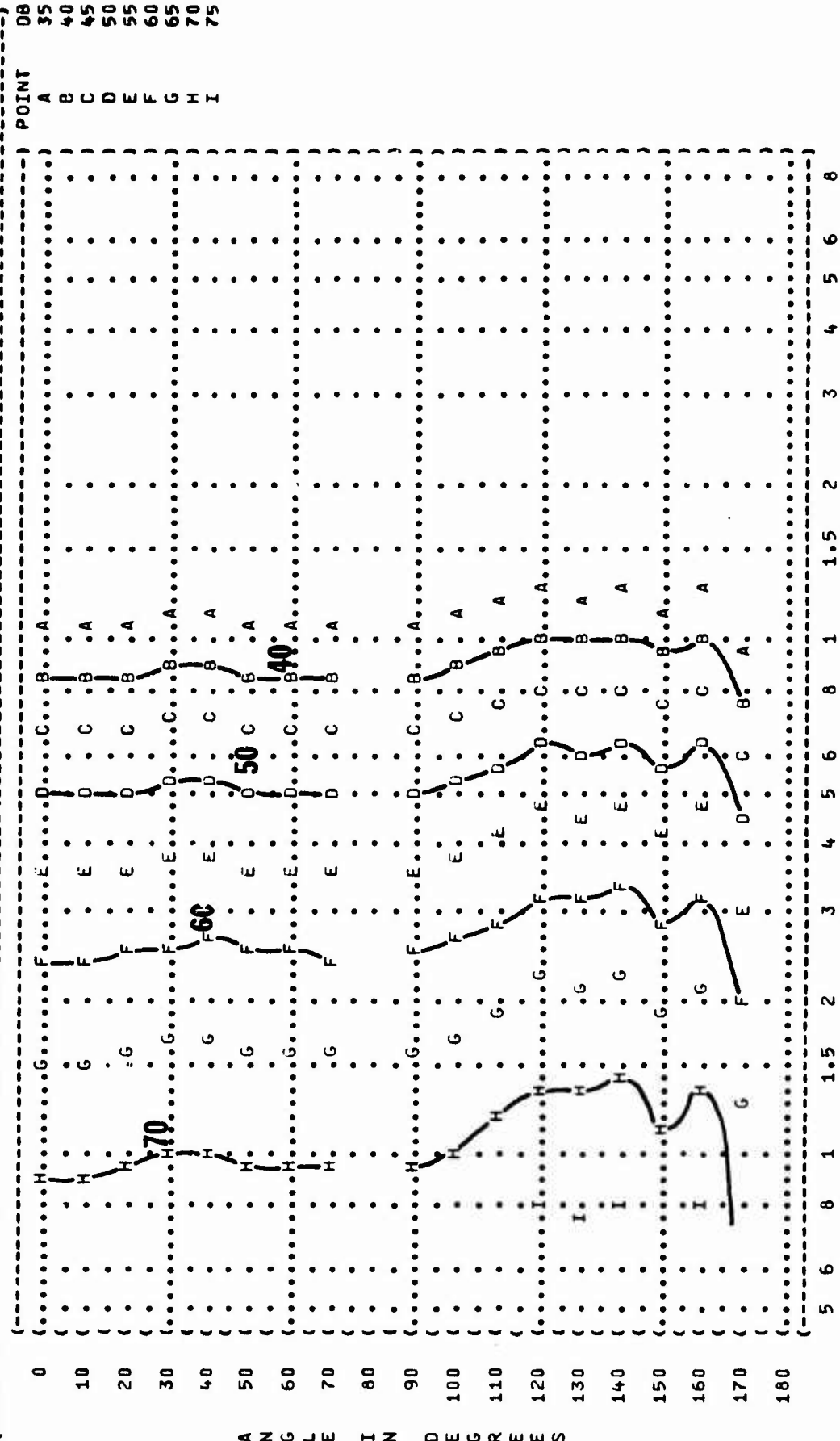


A N G L E I N D E G R E E S

(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (EQUAL LEVEL CONTOURS (DB))
 (11 8000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (F-15A AIRCRAFT)
 (F100-PH-100(1) ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (ENGINES OFF)
 (JET FUEL STARTER ON)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 H HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-052)
 (RUN 01)
 (13 MAY 75)
 (PAGE 24)

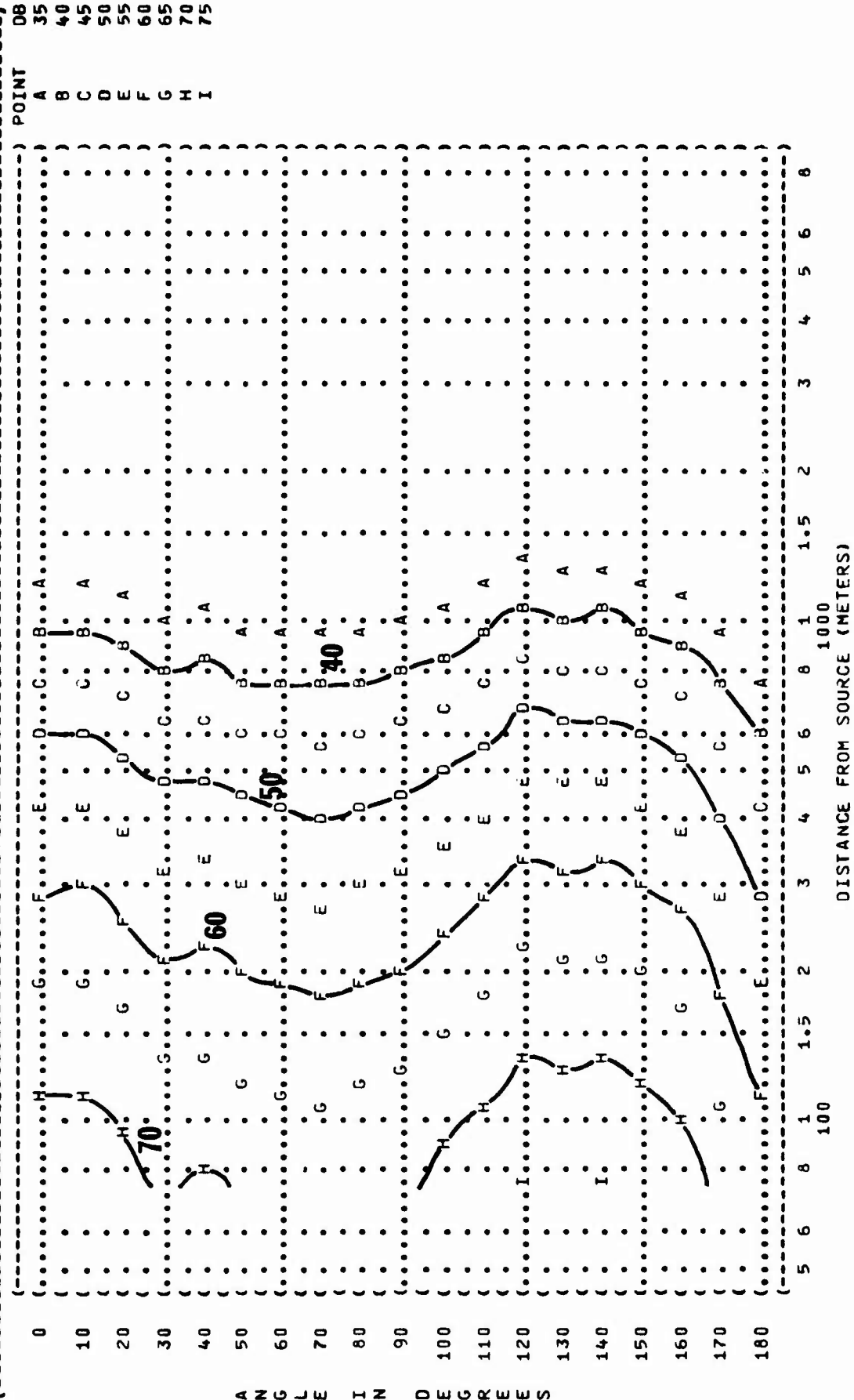


(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 125 HZ OCTAVE BAND
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 (F100-PW-100(1) ENGINE (60% RPM
 (FAR FIELD NOISE (BOTH ENGINES
 ((FREE FLOW
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 75-002-029 (RUN 01
 (07 MAY 75
 (PAGE 20

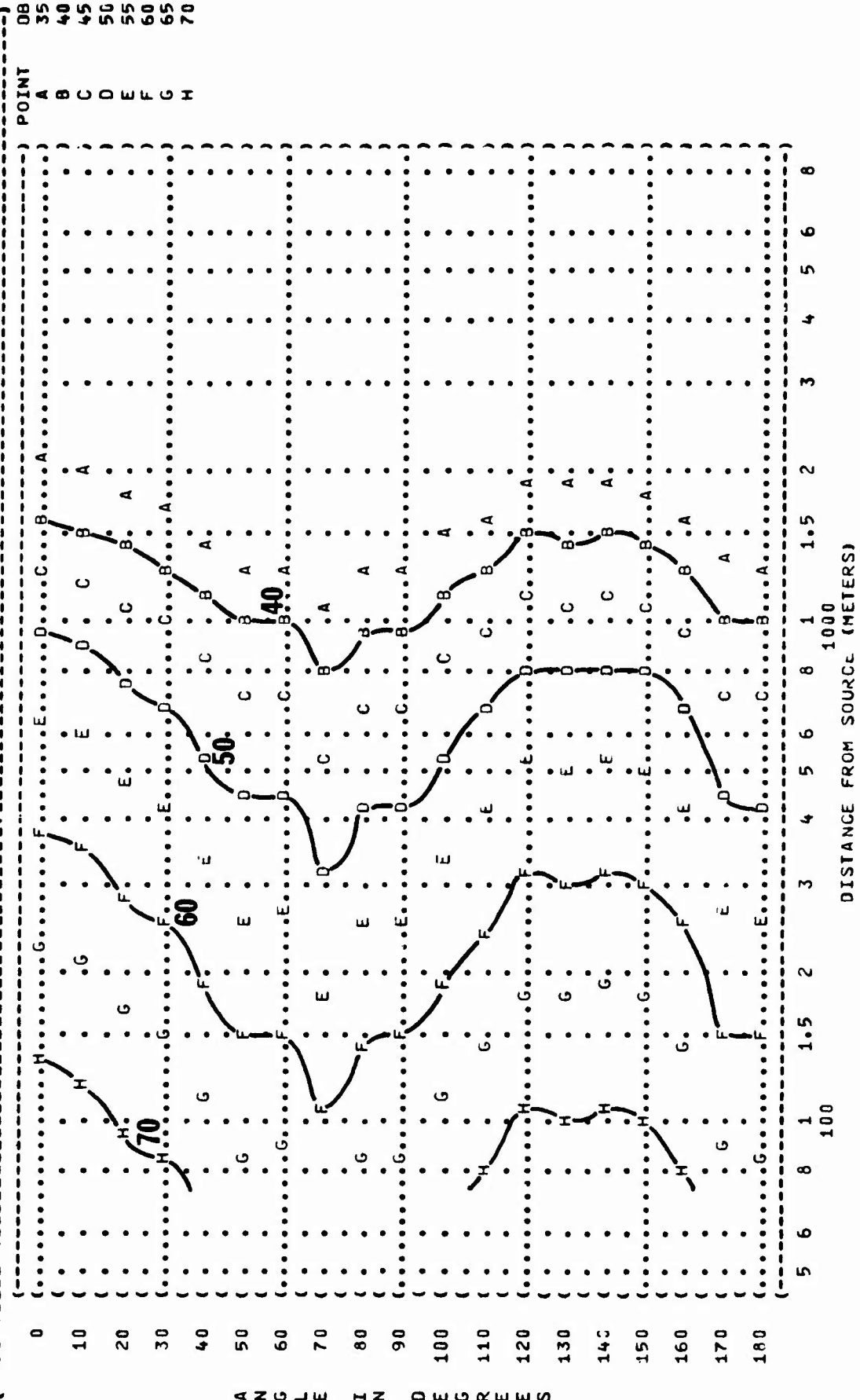


A N G L E I N D E G R E E S

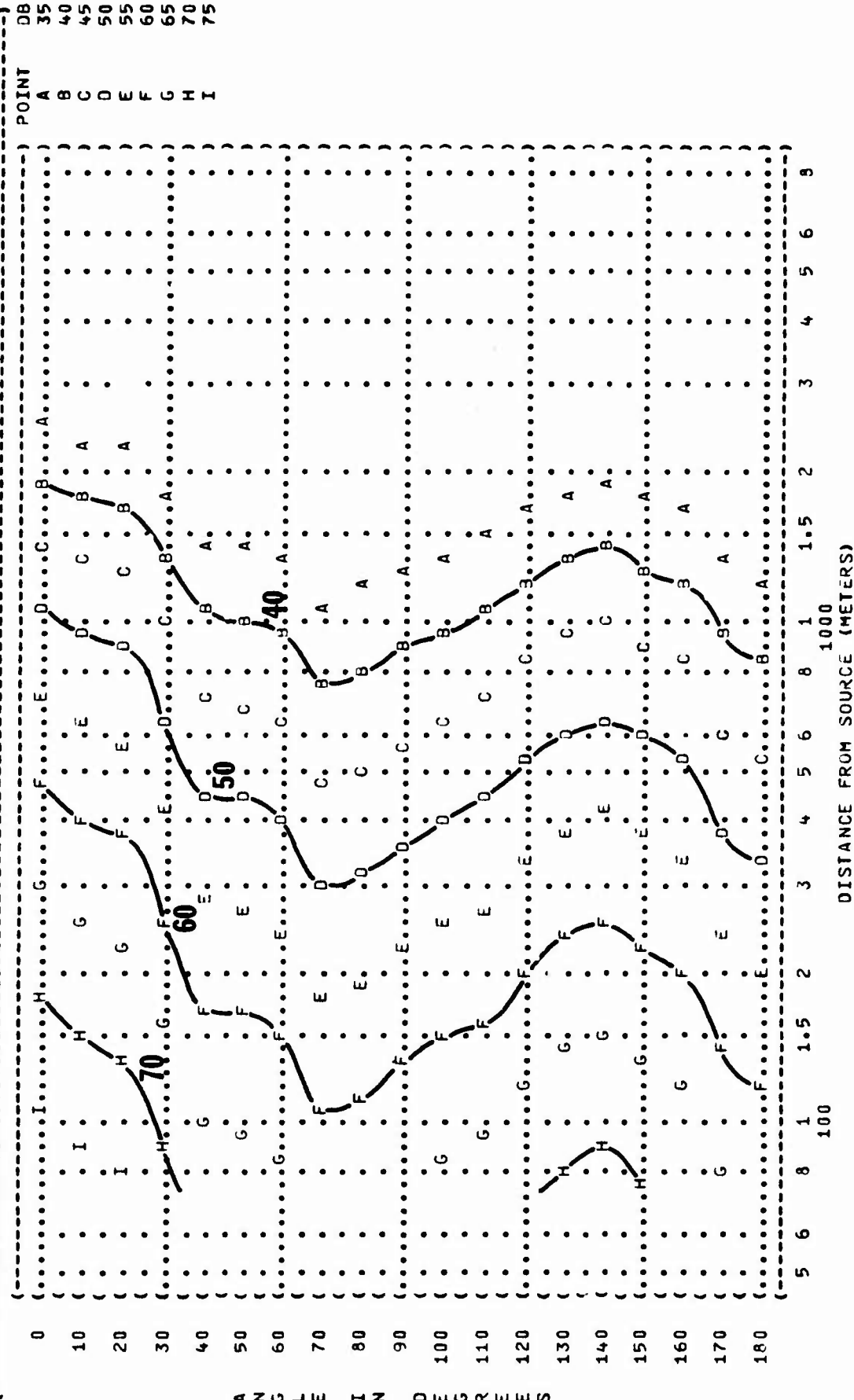
(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (250 HZ OCTAVE BAND)
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 (F100-PW-100(1) ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (IDLE POWER)
 (60% RPM)
 (BOTH ENGINES)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-029)
 (RUN 01)
 (07 MAY 75)
 (PAGE 21)



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 500 HZ OCTAVE BAND
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 (F100-PW-100(1) ENGINE
 (FAR FIELD NOISE
 (OPERATION:
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 (60% RPM
 (BOTH ENGINES
 (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 01
 (07 MAY 75
 (PAGE 22



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (EQUAL LEVEL CONTOURS (DB))
 (11 1000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (F-15A AIRCRAFT)
 (F100-PW-100(1) ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (IDLE POWER)
 (60% RPM)
 (BOTH ENGINES)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-029)
 (RUN 01)
 (07 MAY 75)
 (PAGE 23)



POINT	DB
0	A
10	B
20	C
30	D
40	E
50	F
60	G
70	H
80	I
90	J
100	K
110	L
120	M
130	N
140	O
150	P
160	Q
170	R
180	S
190	T
200	U
210	V
220	W
230	X
240	Y
250	Z

134

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (4000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (IDLE POWER
 (F100-PW-100(1) ENGINE (60% RPM
 (FAR FIELD NOISE (BOTH ENGINES
 (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 01
 (07 MAY 75
 (PAGE 25

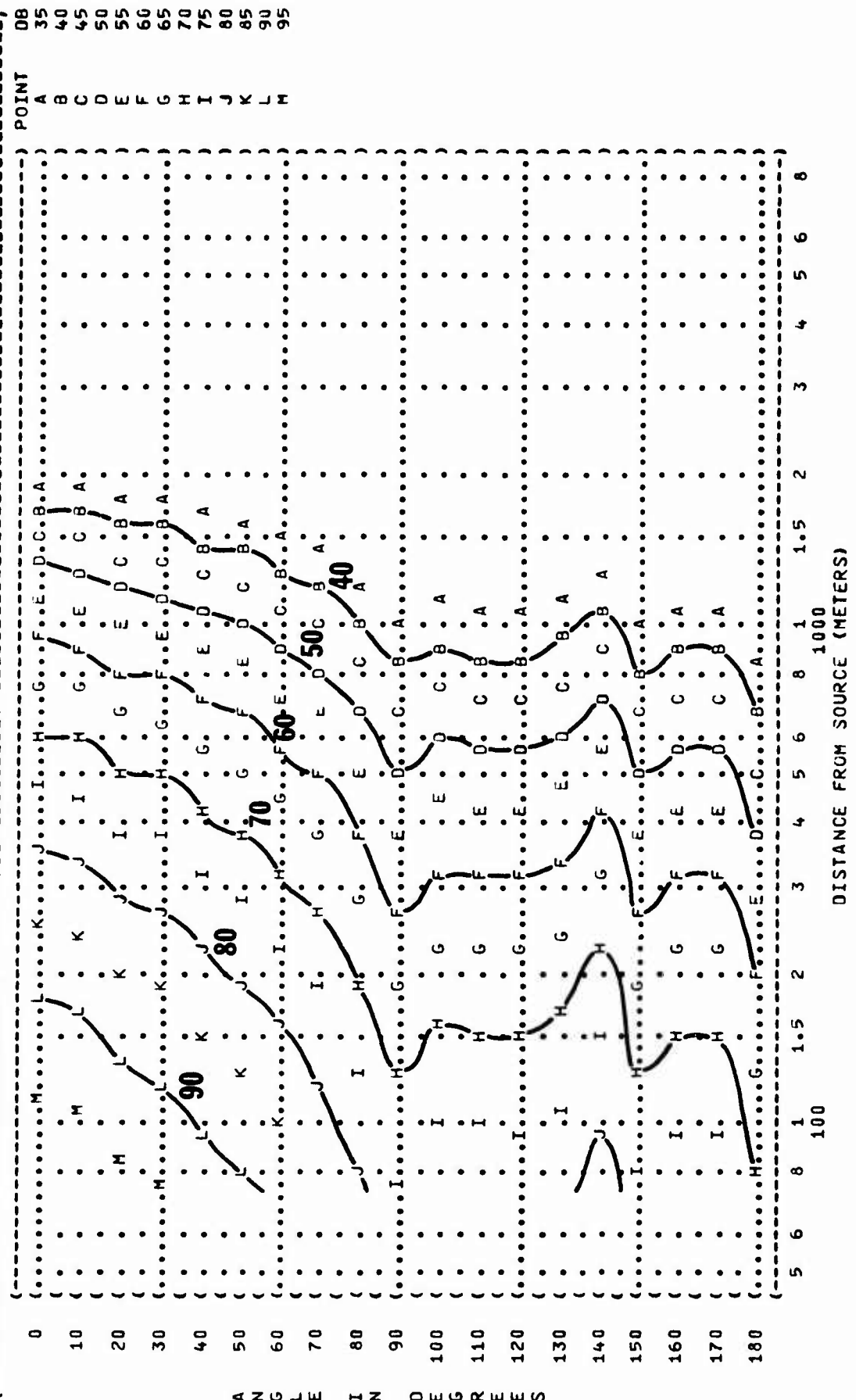
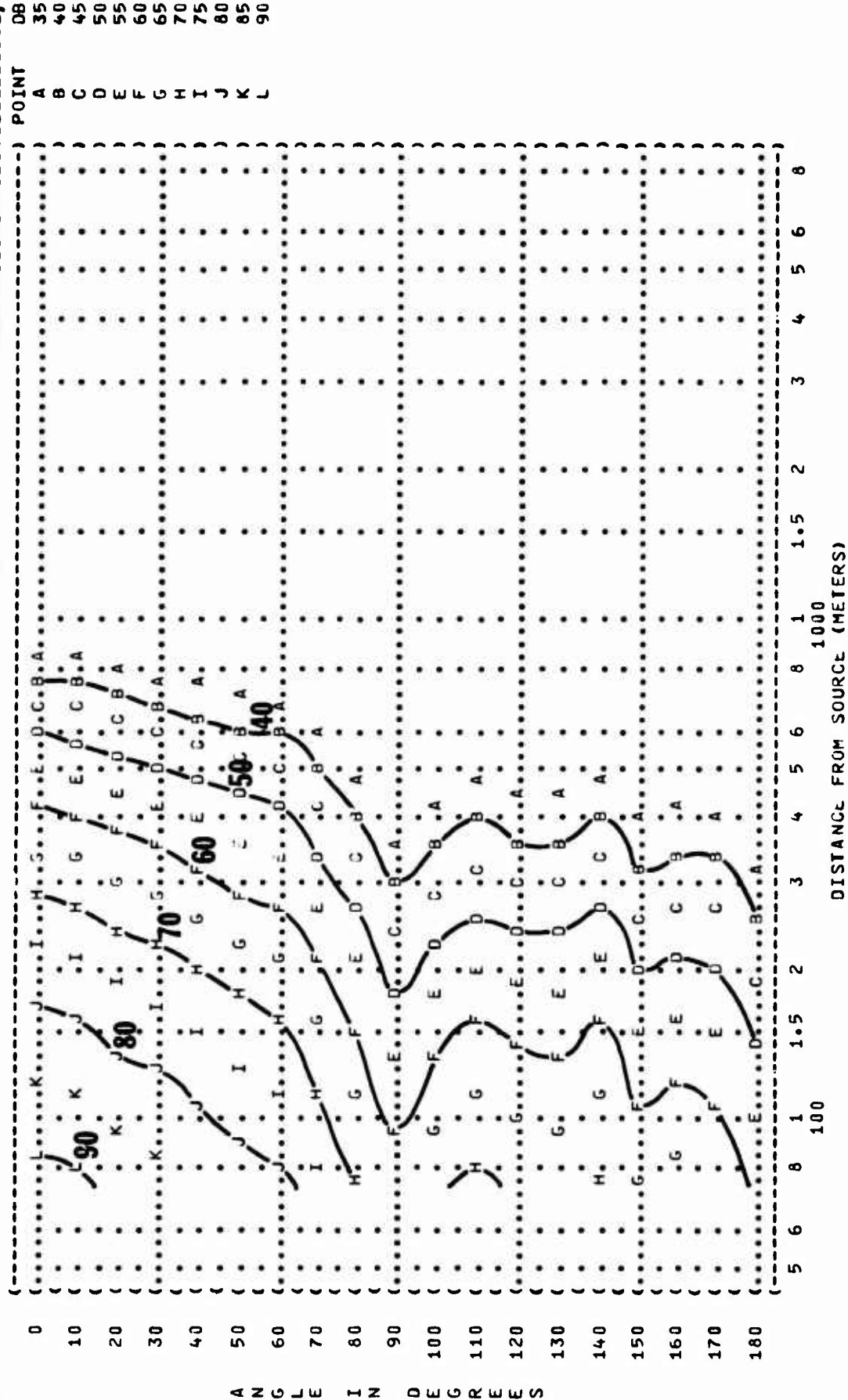


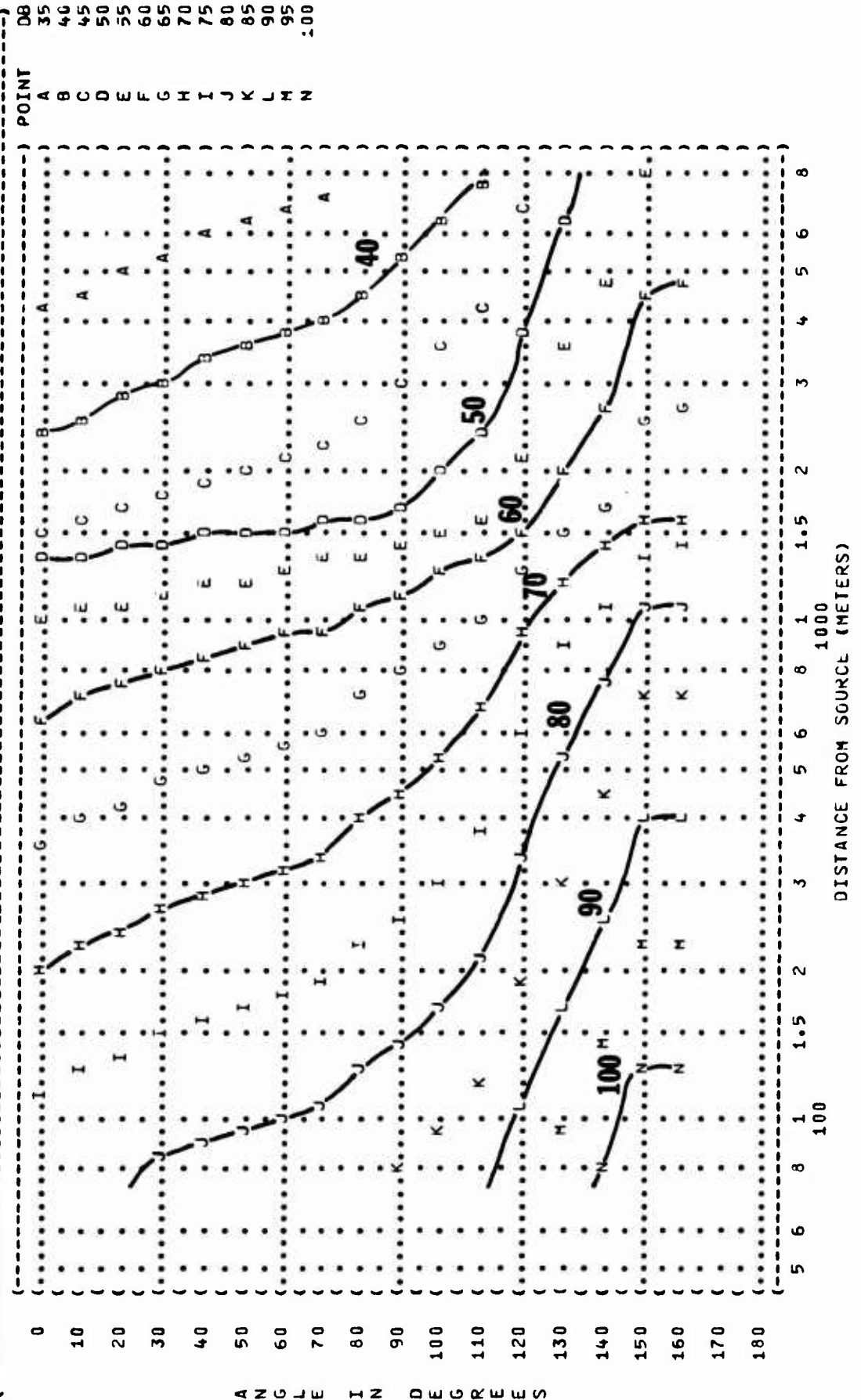
FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

11

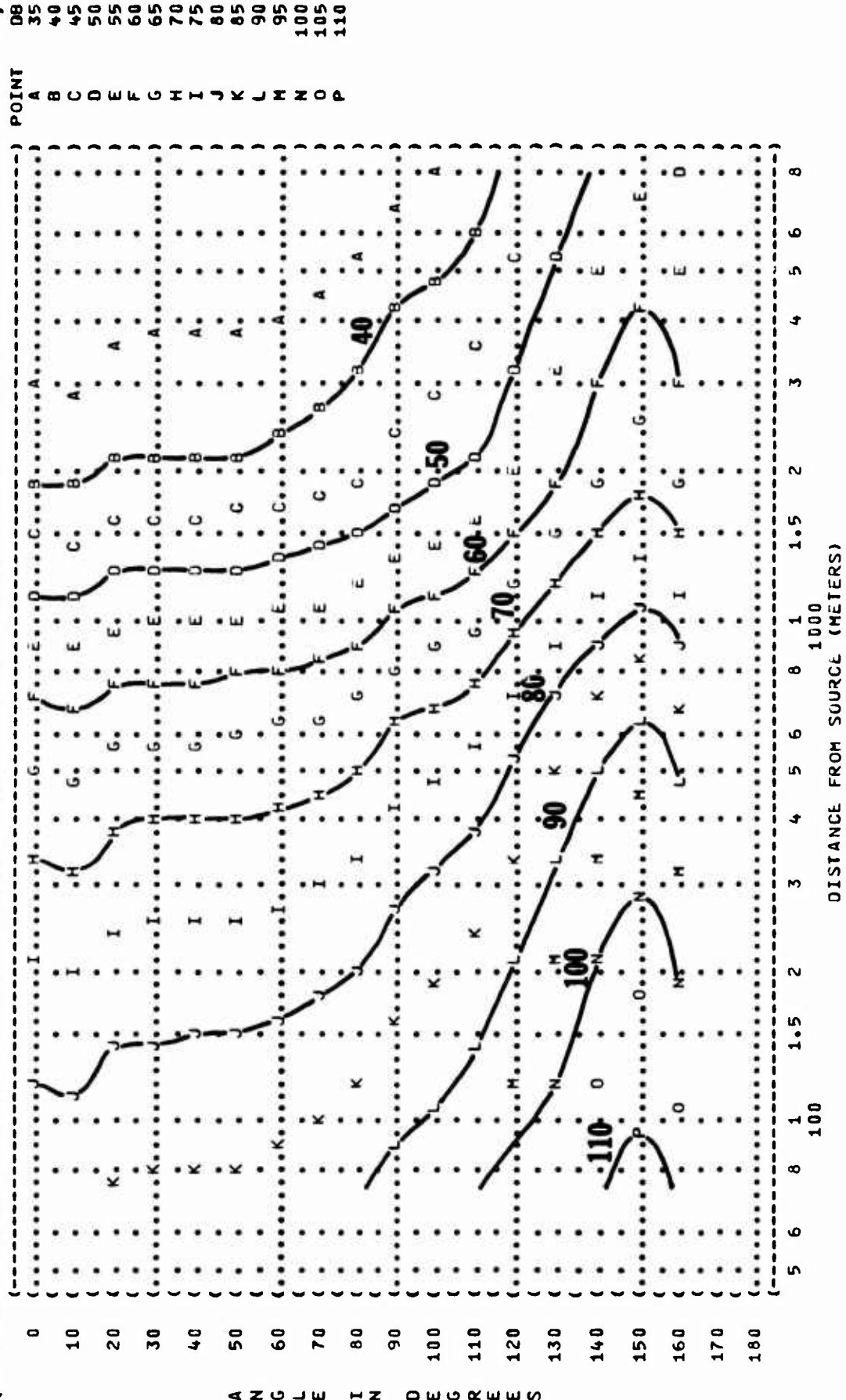
IDENTIFICATION: OMEGA 1.4
TEST 75-002-029
RUN 01
METEOROLOGY: TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION: IDLE POWER
60% RPM
BOTH ENGINES
FREE FLOW
NOISE SOURCE/SUBJECT: F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (31.5 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (80% RPM
 (F100-PW-100(1) ENGINE (BOTH ENGINES
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 02
 (07 MAY 75
 (PAGE 18



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (80% RPM
 (F100-PW-100(1) ENGINE (BOTH ENGINES
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 02
 (07 MAY 75
 (PAGE 19



A N G L E I N D E G R E E S

```

) IDENTIFICATION: )
) )
) OMEGA 1.4 )
) TEST 75-002-029 )
) RUN 02 )

```

OMEGA 1.4

METEOROLOGY:

(OPERATIONS:

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) TEMP = 15 C
) BAR PRESS = .760 M HG
) REL HUMID = 70 %
)

```

80% RPM
BOTH ENGINES
FREE FLOW

BAR PRESS = .760 M HG
REL HUMID = 70 %

PAGE 20

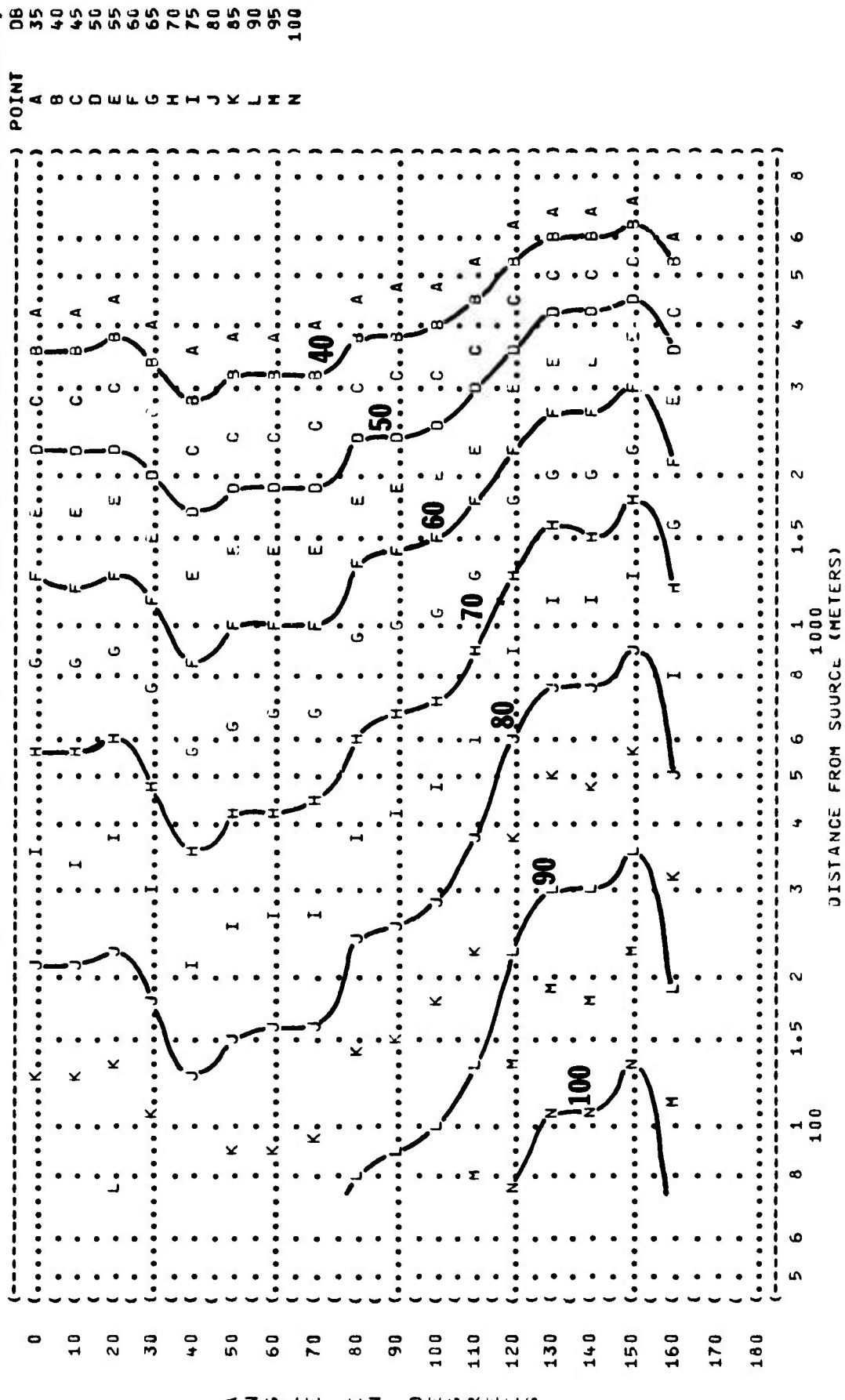
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DISTANCE FROM SOURCE (METERS)

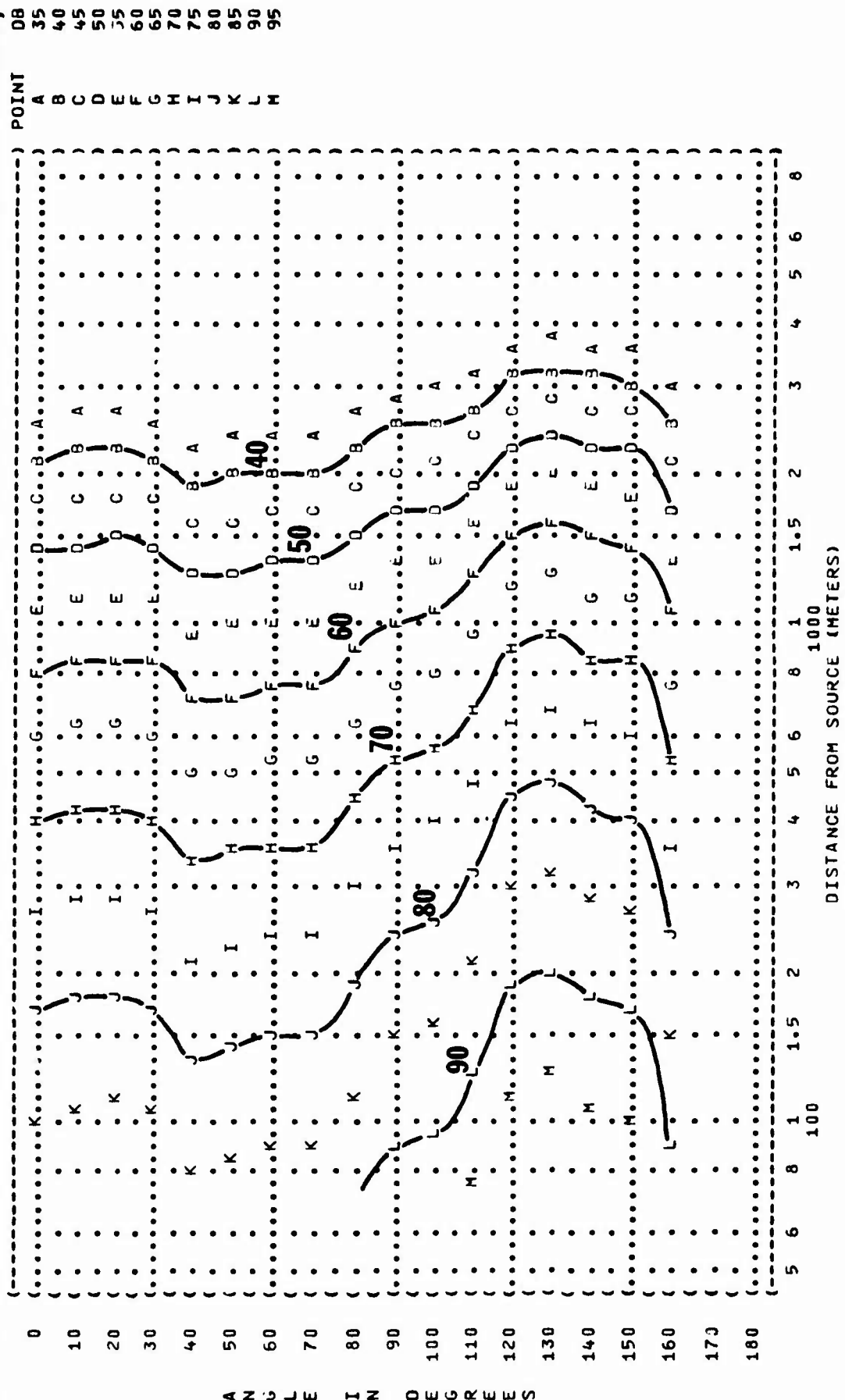
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(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (**11** 1000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (80% RPM
 (F100-PW-100(1) ENGINE (BOTH ENGINES
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 02
 (PAGE 23



(FIGURE: SOUND PRESSURE LEVEL (SPL)) IDENTIFICATION:)
 (11 EQUAL LEVEL CONTOURS (DB)))
 (2000 HZ OCTAVE BAND))
 (NOISE SOURCE/SUBJECT:))
 (F-15A AIRCRAFT))
 (F100-PM-100(1) ENGINE))
 (FAR FIELD NOISE))
 (OPERATION:))
 (80% RPM))
 (90TH ENGINES))
 (FREE FLOW))
 (METEOROLOGY:))
 (TEMP = 15 C))
 (BAR PRESS = .760 M HG))
 (REL HUMID = 70 %))
 (TEST 75-002-029))
 (RUN 02))
 (PAGE 24))



A N G L E I N D E G R E E S

FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
63 HZ OCTAVE BAND

11

NOISE SOURCE/SUBJECT:

F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

OPERATION:

MILITARY POWER
90% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:

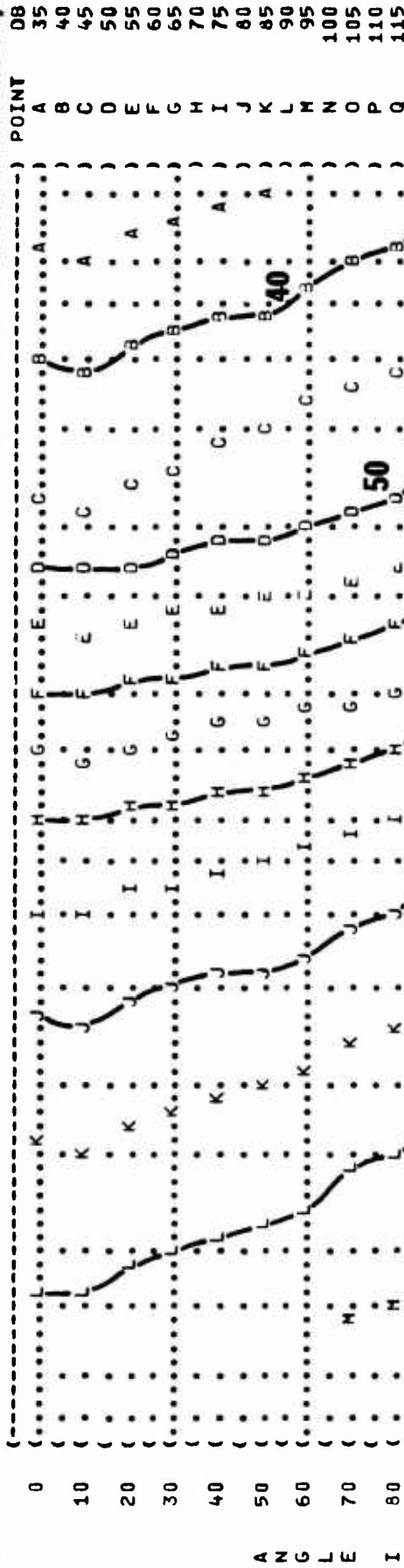
OMEGA 1.4

TEST 75-002-029

RUN 03

07 MAY 75

PAGE 19



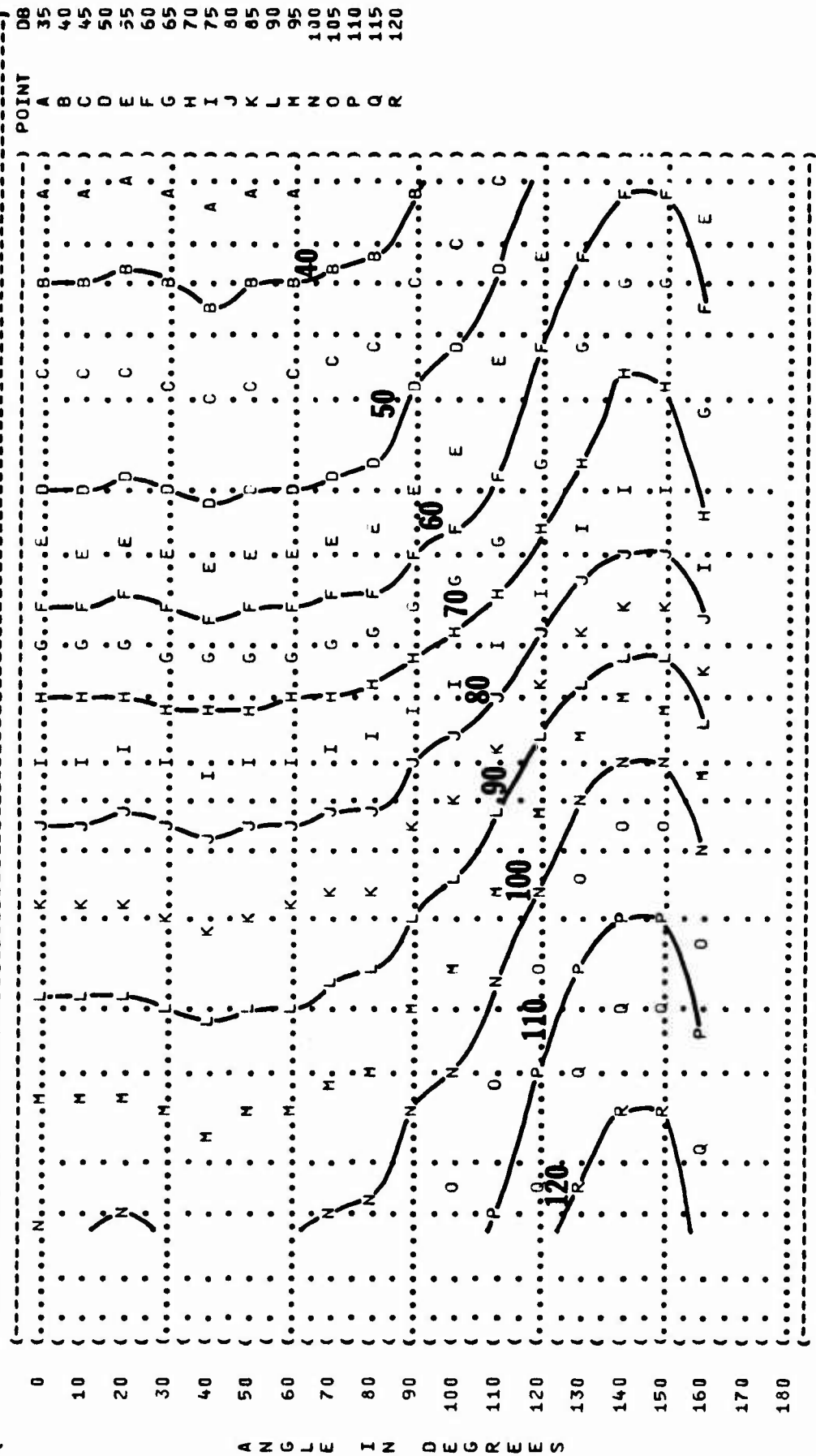
5.56 Hz (1/3 octave band)
1000 Hz (1/3 octave band)
1000 Hz (1/3 octave band)

11
1000
1000

1000
1000
1000

1000
1000
1000

(FIGURE: SOUND PRESSURE LEVEL (SPL)) IDENTIFICATION:)
 (EQUAL LEVEL CONTOURS (DB))
 (11 125 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (F-15A AIRCRAFT)
 (F100-PH-100(1) ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (MILITARY POWER)
 (90% RPM)
 (BOTH ENGINES)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (TEST 75-002-029)
 (RUN 03)
 (OMEGA 1.4)
 (PAGE 20)



DISTANCE FROM SOURCE (METERS)
 5 6 8 1 1.5 2 3 4 5 6 8 1000

A N G L E I N D E G R E E S

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

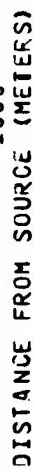


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

11

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-029
RUN 03
METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION:
MILITARY POWER
90% RPM
BOTH ENGINES
FREE FLOW
F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

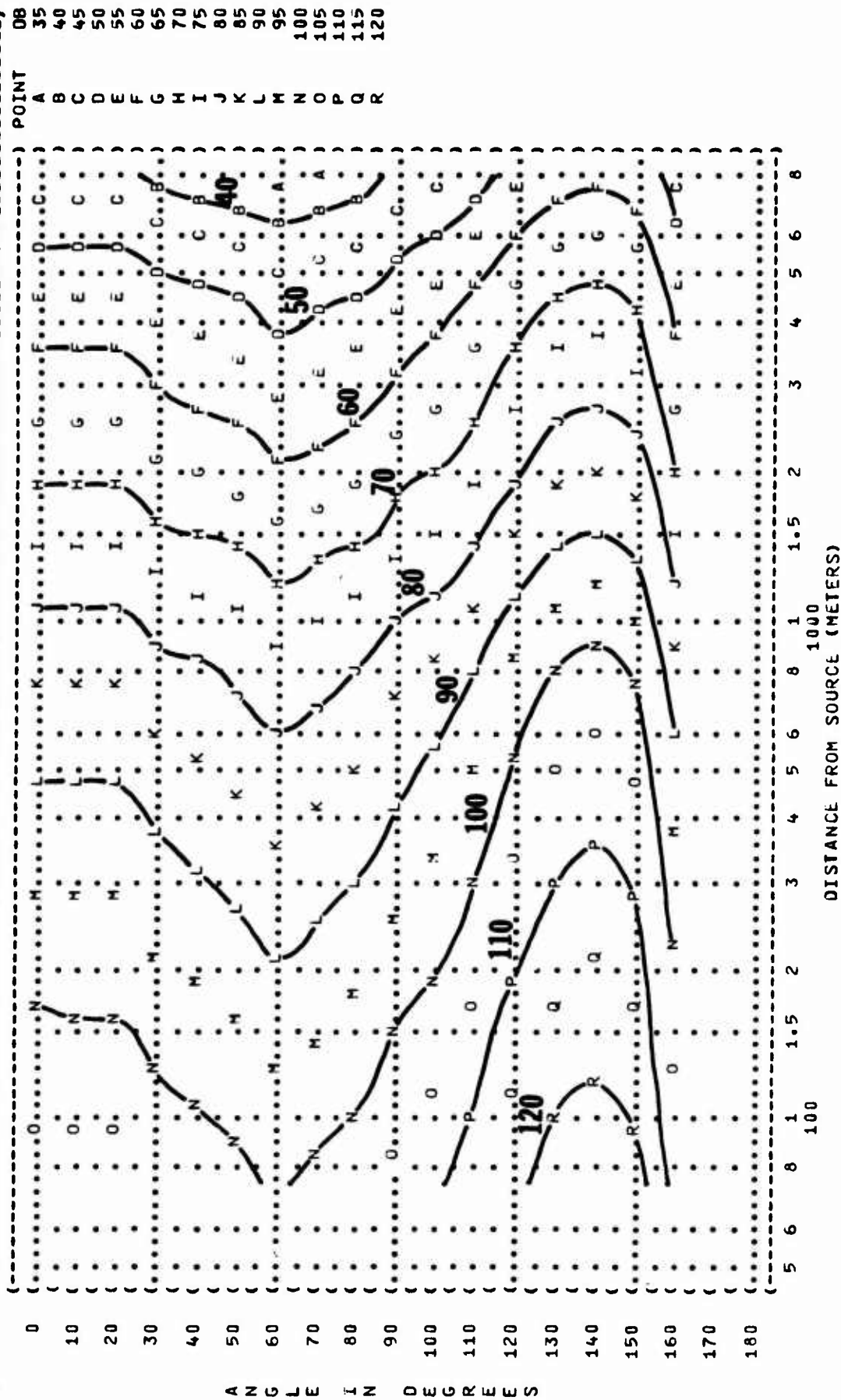
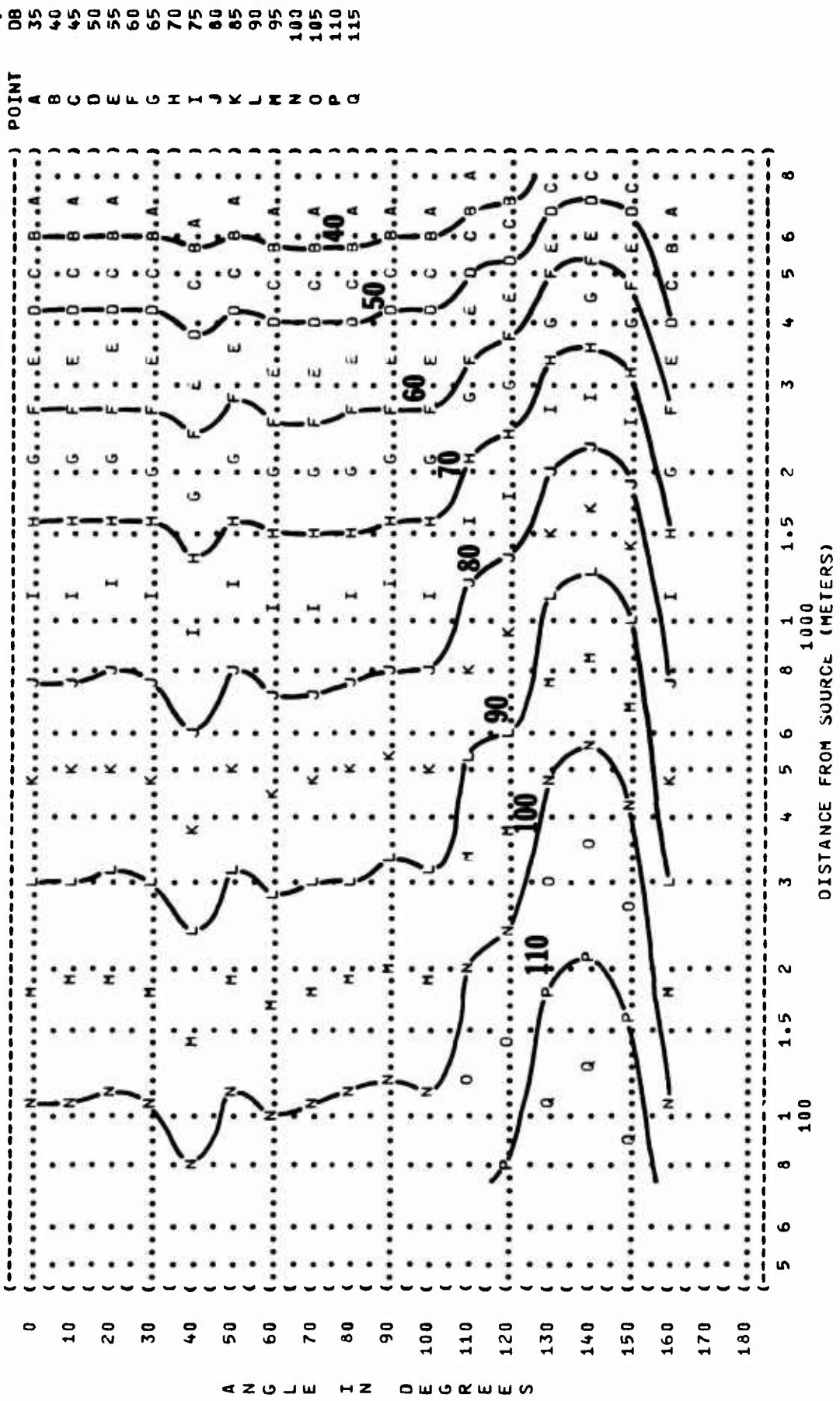


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
11 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: (OPERATION:)
(F-15A AIRCRAFT (MILITARY POWER)
(F100-PW-100(1) ENGINE (90% RPM)
(FAR FIELD NOISE (BOTH ENGINES)
(FREE FLOW)

METEORLOGY: ()
(TEMP = 15 C)
(BAR PRESS = .760 M HG)
(REL HUMID = 70 %)

IDENTIFICATION: ()
(OMEGA 1.4)
(TEST 75-002-029)
(RUN 03)
(07 MAY 75)
(PAGE 23)



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 ((OPERATION:
 ((MILITARY POWER
 ((90% RPM
 (F-15A AIRCRAFT
 (F100-PW-100(1) ENGINE
 (FAR FIELD NOISE
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 03
 (07 MAY 75
 (PAGE 24

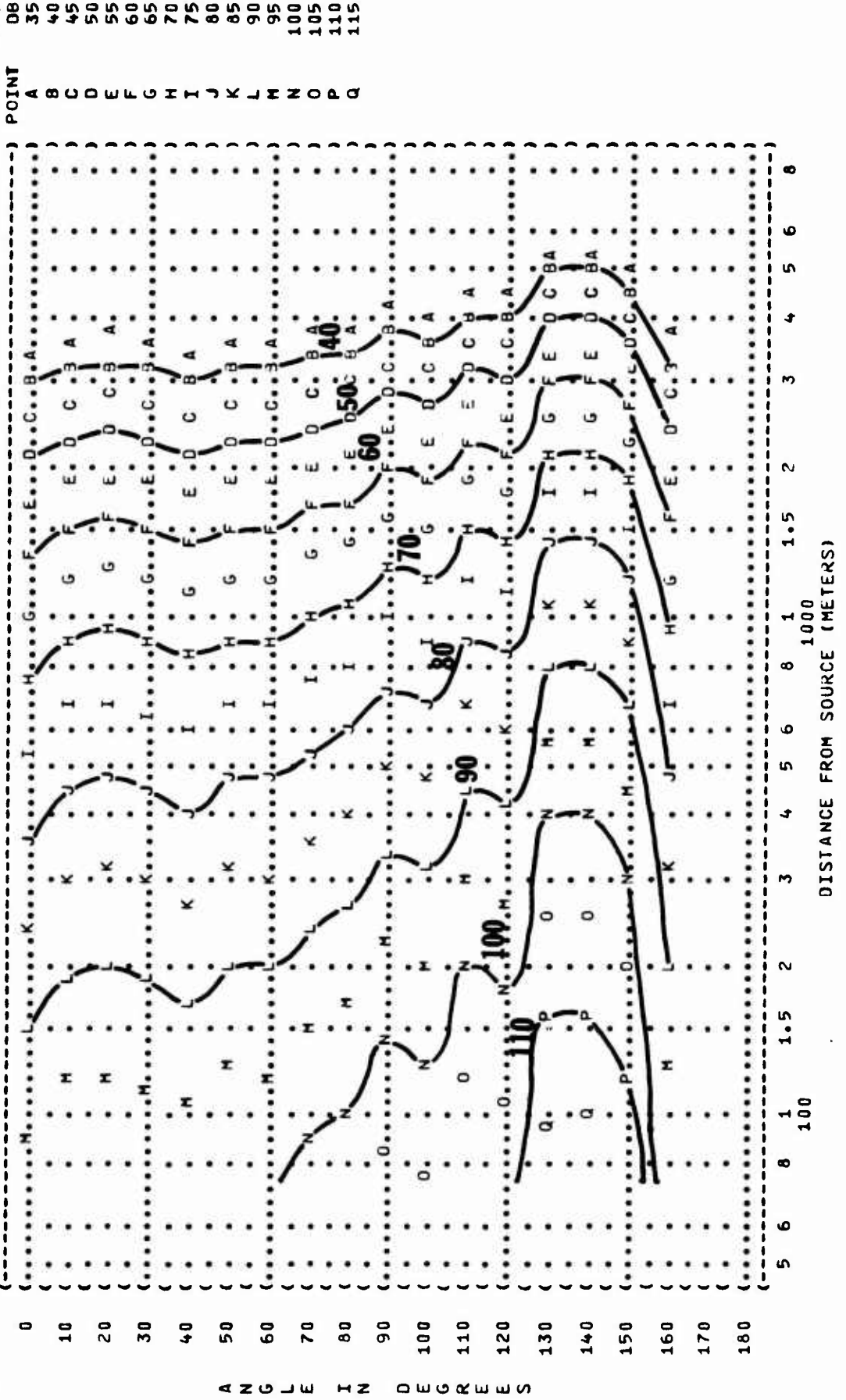
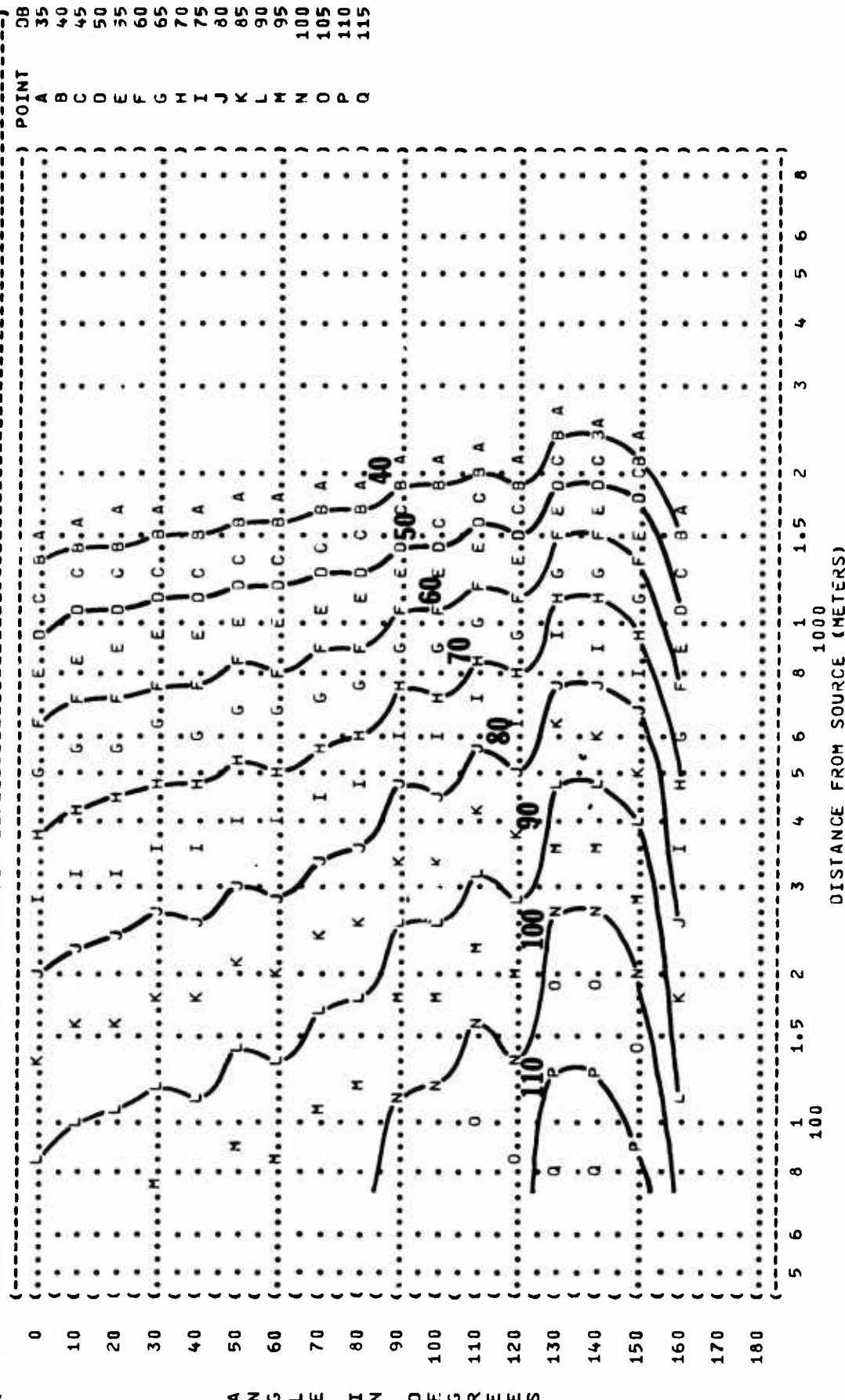


FIGURE: SOUND PRESSURE LEVEL (SPL)
 EQUAL LEVEL CONTOURS (DB)
 4000 HZ OCTAVE BAND

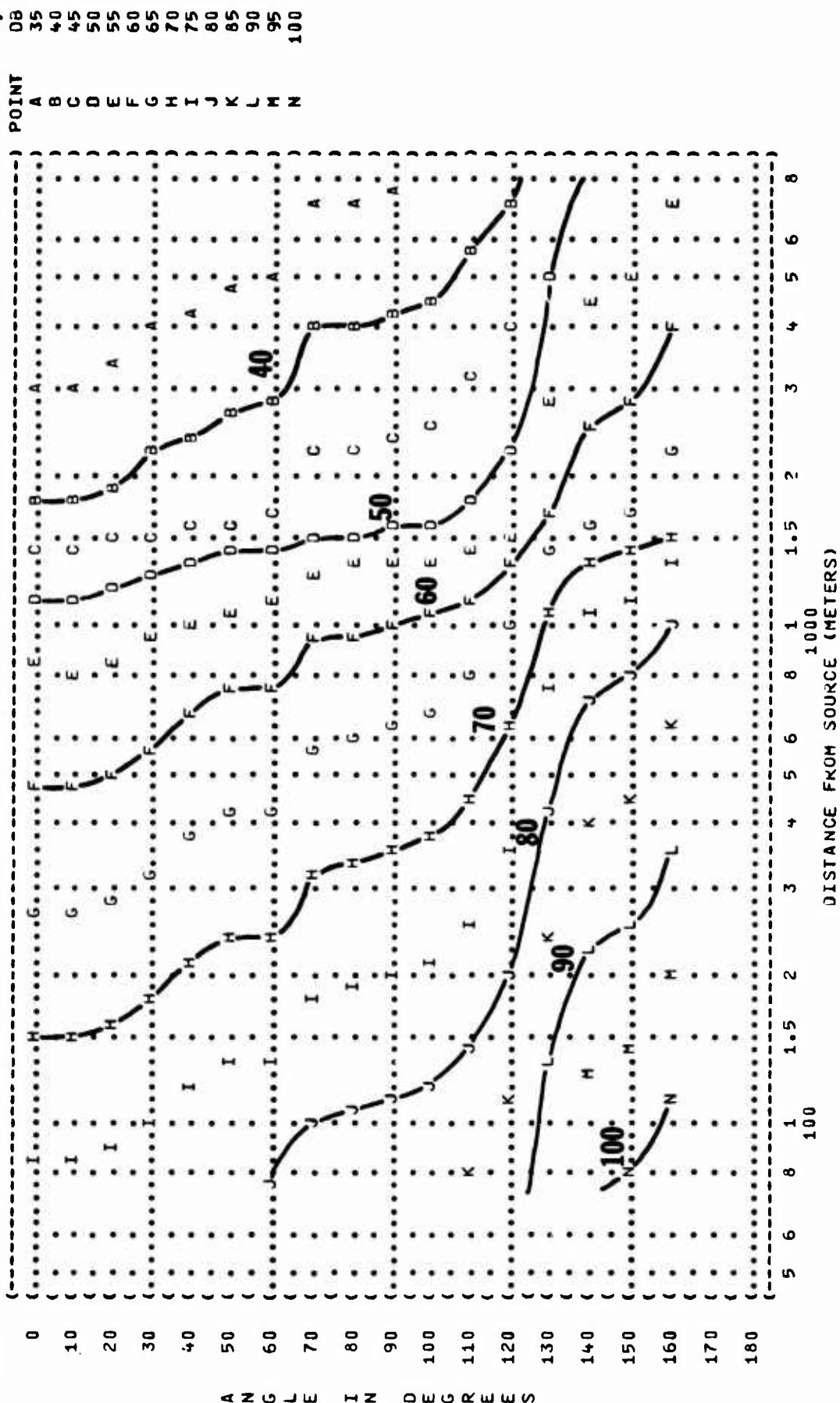
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NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 (F-15A AIRCRAFT (MILITARY POWER) TEMP = 15 C)
 (F100-PW-100(1) ENGINE (90% RPM) BAR PRESS = .760 M HG)
 (FAR FIELD NOISE (BOTH ENGINES) REL HUMID = 70 %)
 (FREE FLOW))

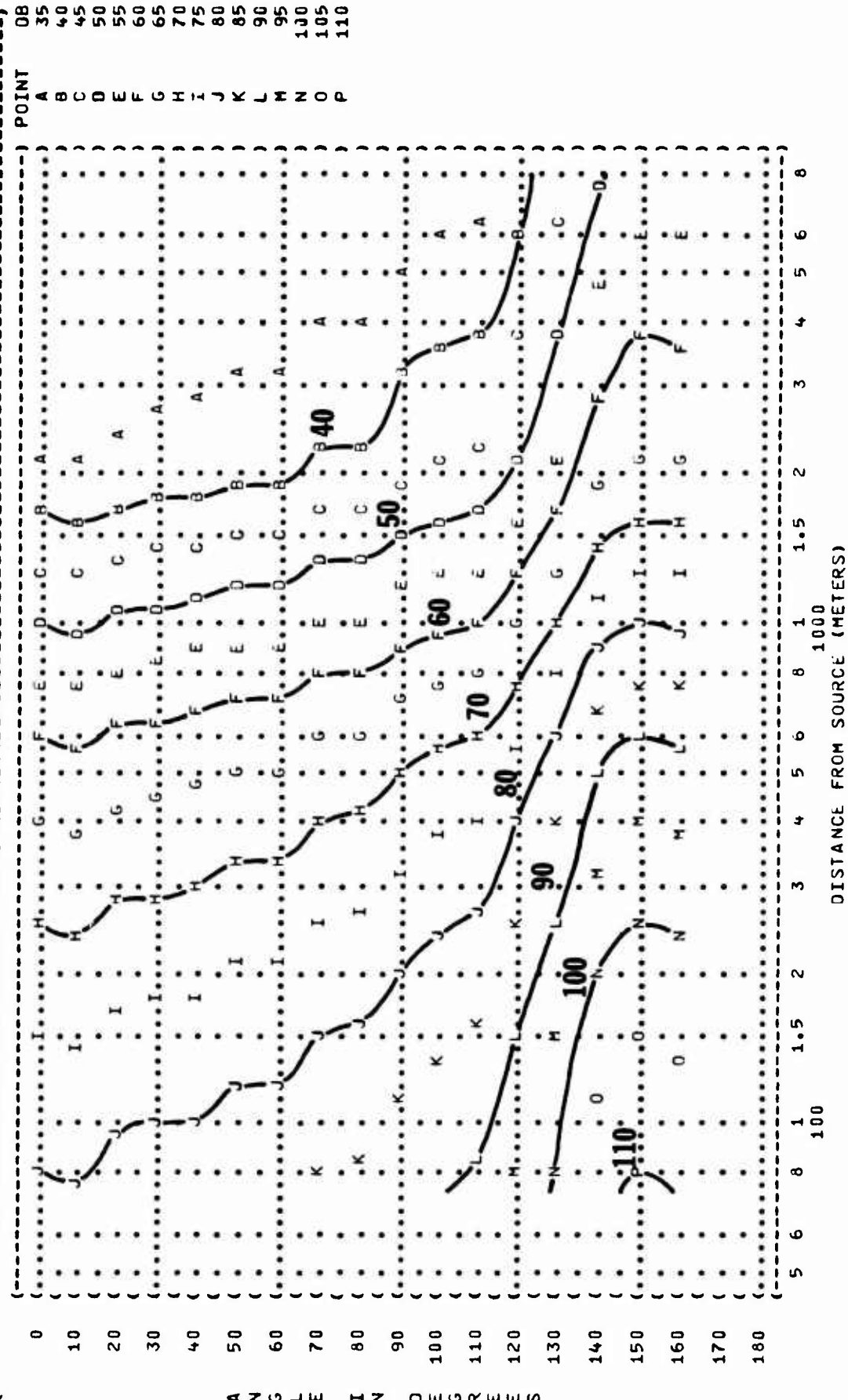
IDENTIFICATION:
 OMEGA 1.4
 TEST 75-002-029
 RUN 03
 07 MAY 75
 PAGE 25



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 31.5 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (80% RPM
 (F100-PW-100(1) ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029)
 (RUN 04)
 (07 MAY 75)
 (PAGE 18)



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (80% RPM
 (F100-PW-100(1) ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 04
 (07 MAY 75
 (PAGE 19



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IDENTIFICATION: )
)
) OMEGA 1.4 )
) TEST 75-002-029 )
) RUN 04 )
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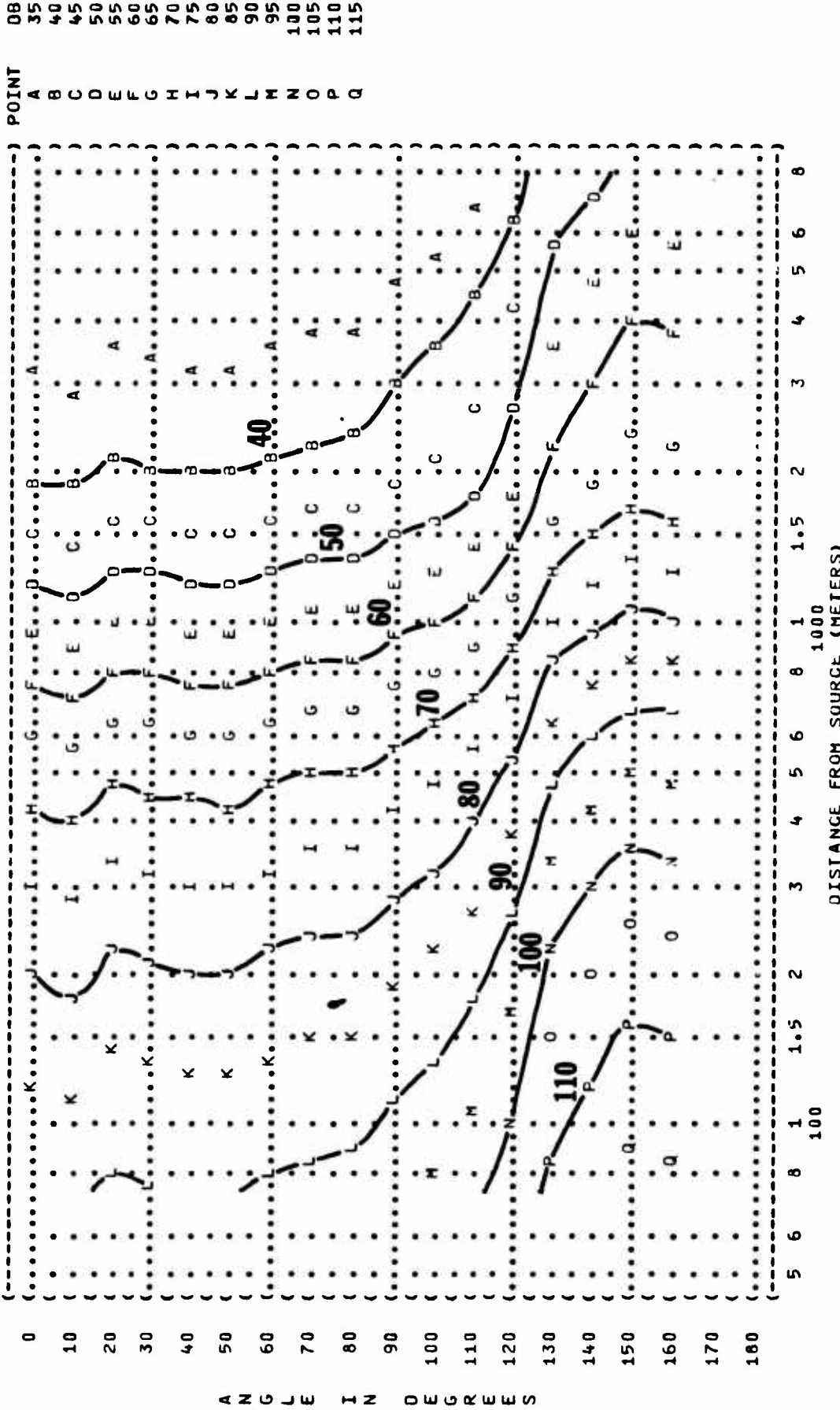
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TEST 75-003
RUN 04

METEOROLOGY:

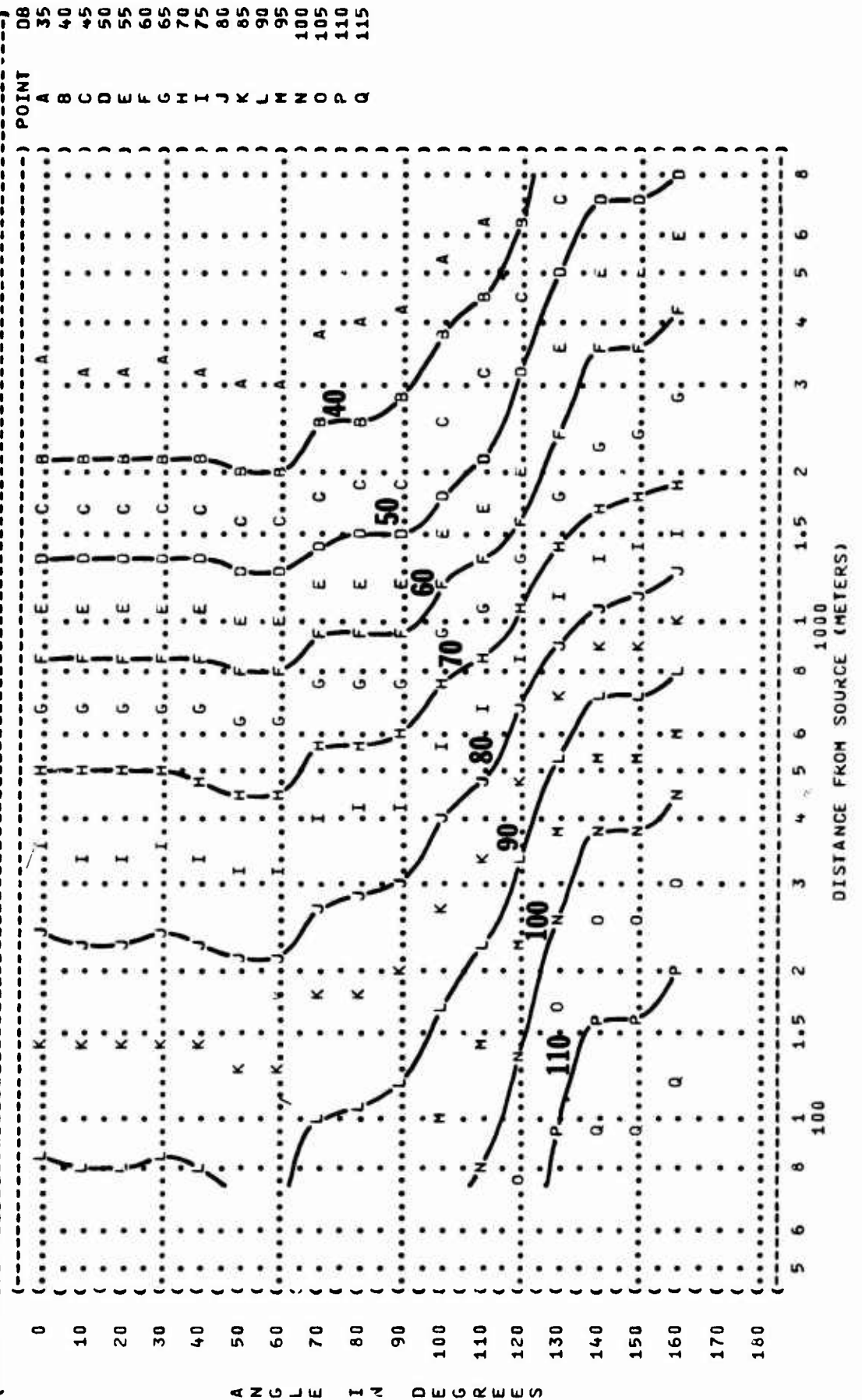
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BAR PRESS = .760 M HG
REL HUMID - 70 %

3 PRESS = .760 M

REL HUMID - 70 %

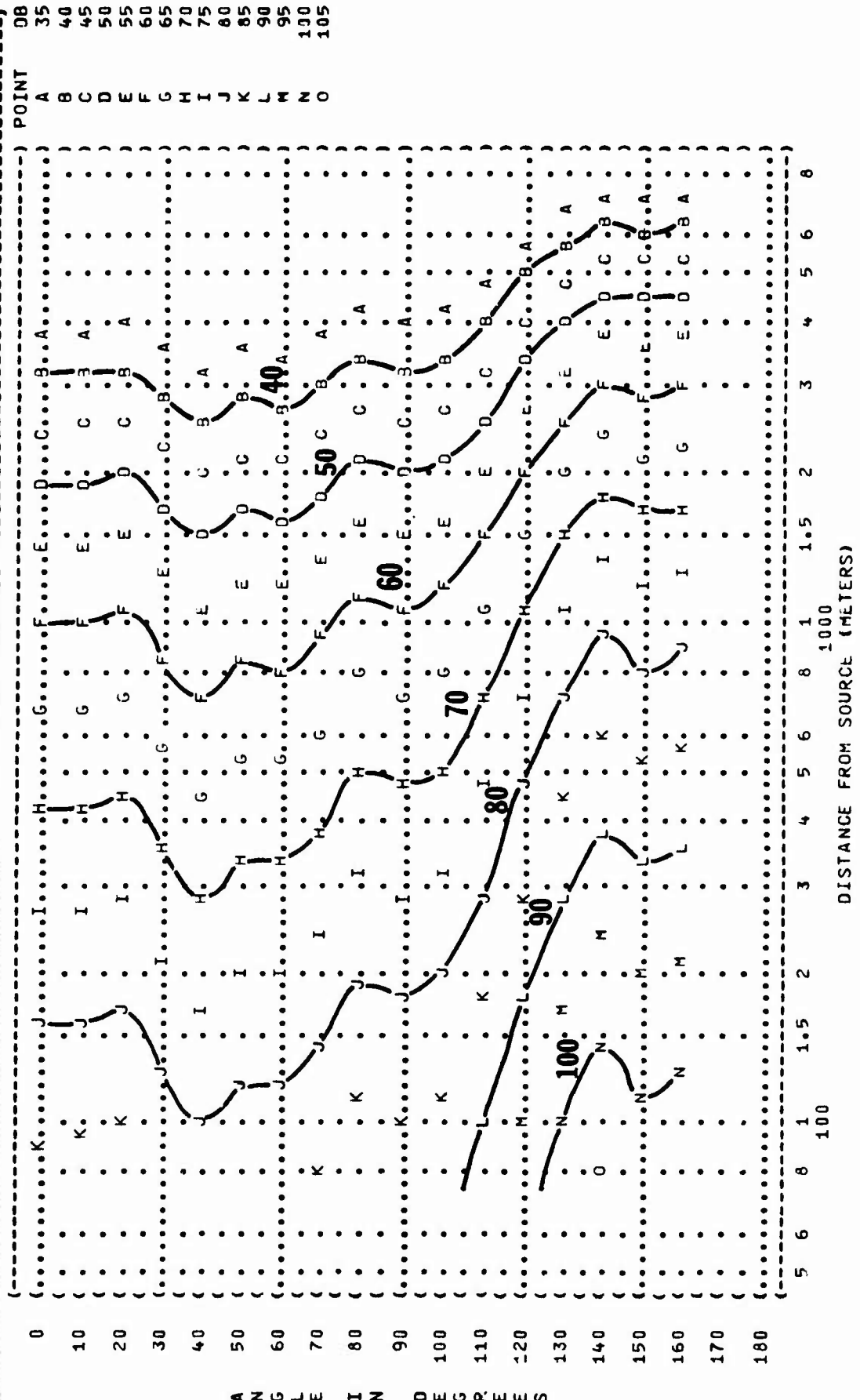


(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 250 HZ OCTAVE BAND
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 (F100-PW-100(1) ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 75-002-029
 (RUN 04
 (07 MAY 75
 (PAGE 21

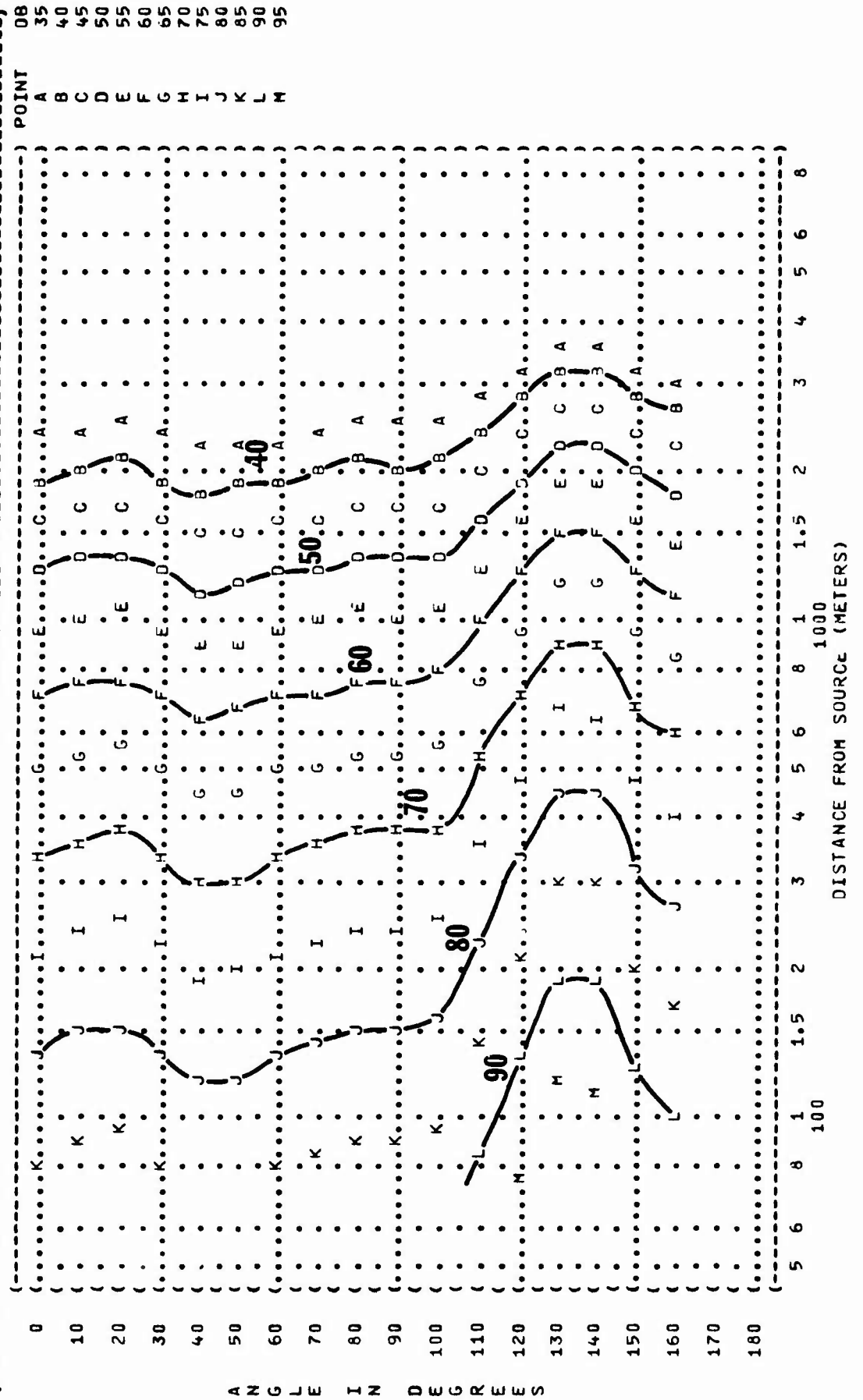


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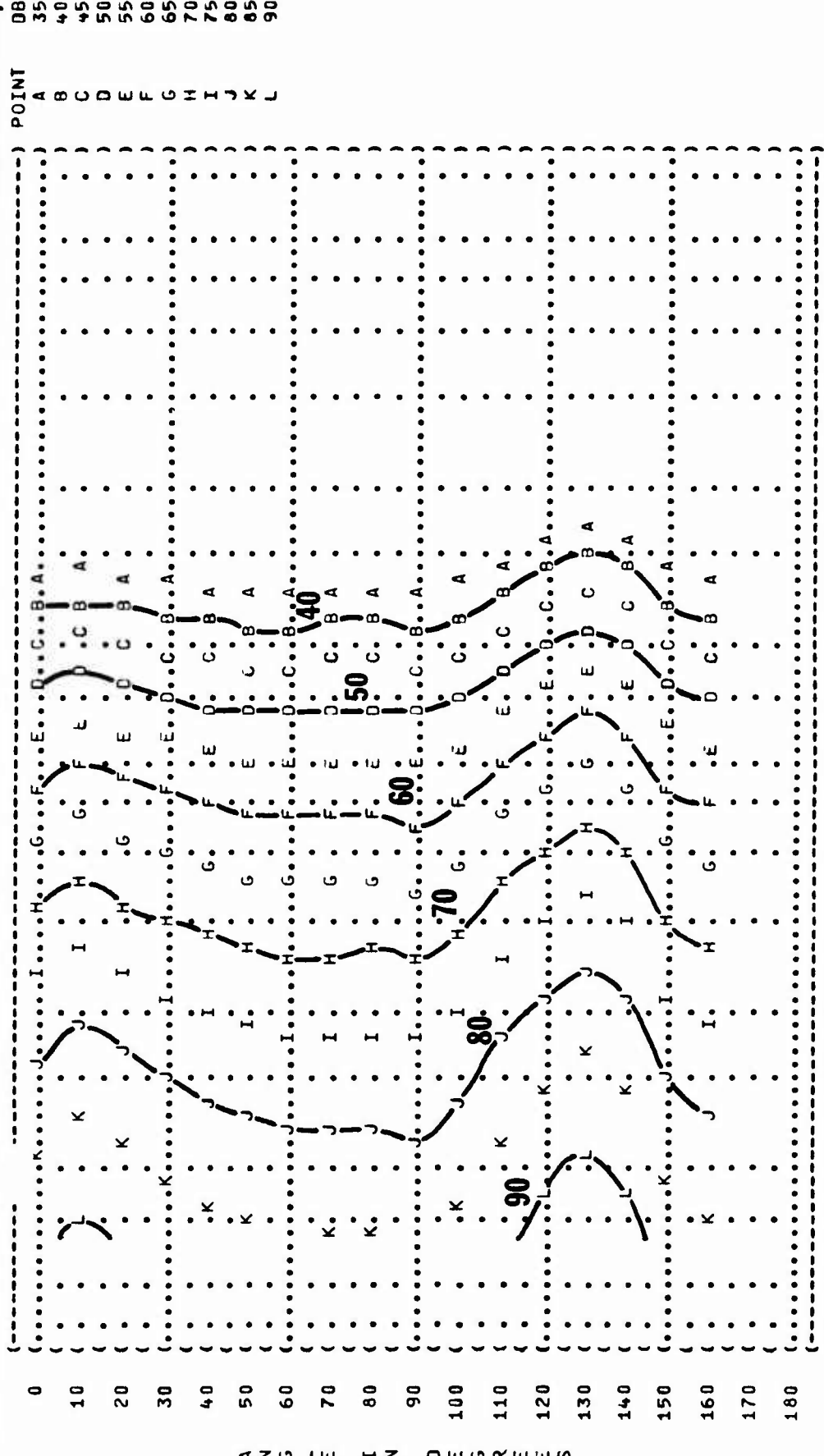
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 ((11 EQUAL LEVEL CONTOURS (DB)
 ((1000 HZ OCTAVE BAND
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 ((F100-PW-100(1) ENGINE (SINGLE ENGINE
 ((FAR FIELD NOISE (FREE FLOW
 ((METEOROLOGY: (TEMP = 15 C
 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((IDENTIFICATION: (OMEGA 1.4
 ((TEST 75-002-029
 ((RUN 04
 ((07 MAY 75
 ((PAGE 23



(FIGURE: SOUND PRESSURE LEVEL {SPL}
 (EQUAL LEVEL CONTOURS (DB)
 (**11** 2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (80% RPM
 (F100-PW-100(1) ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
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 (RUN 04)
 (07 MAY 75)
 (PAGE 24)

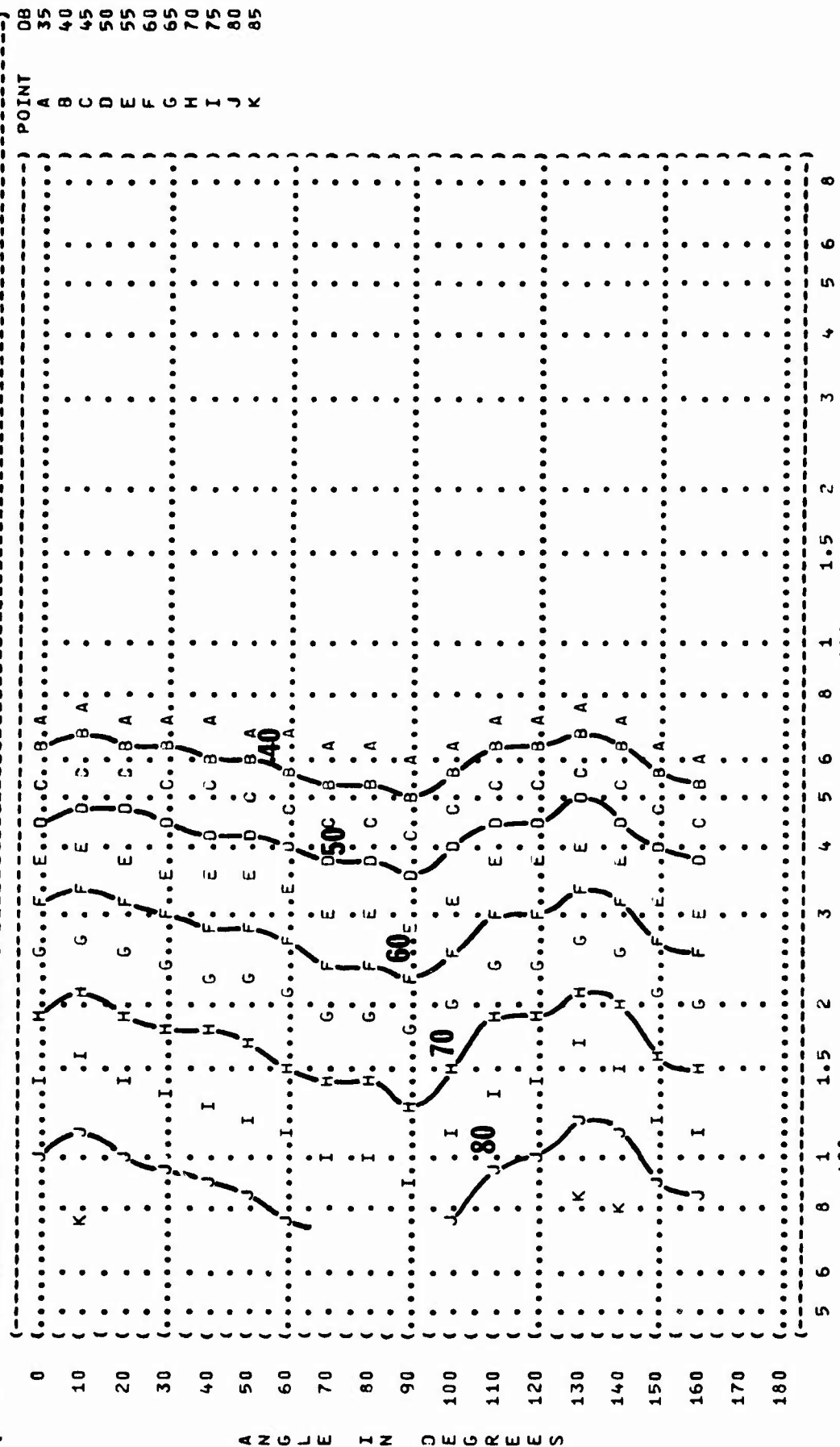


(FIGURE: SOUND PRESSURE LEVEL (SPL)
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 (F100-PW-100(1) ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
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 (TEST 75-002-029
 (RUN 04
 (07 MAY 75
 (PAGE 25



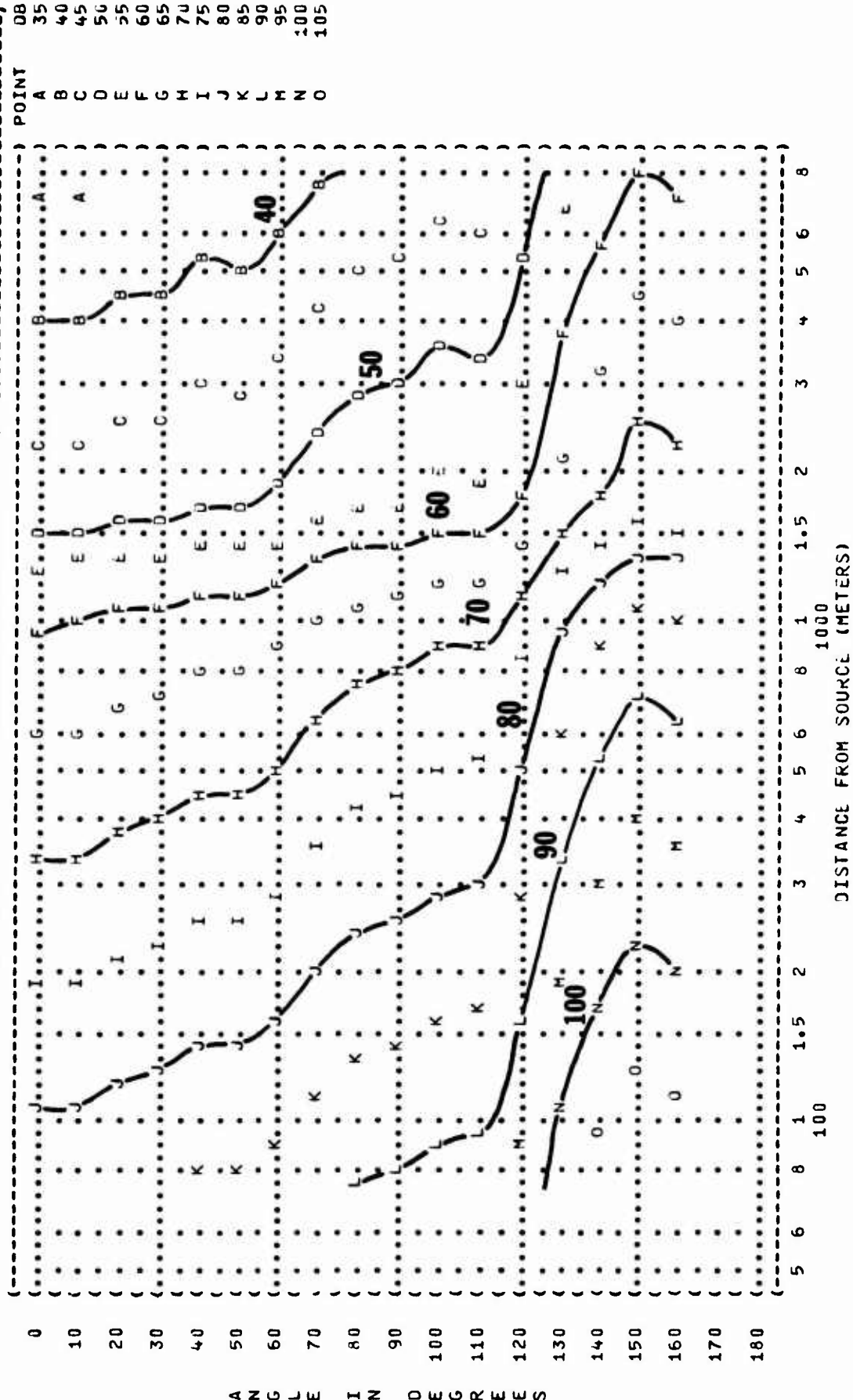
A N G L E I N D E G R E E S

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 8000 HZ OCTAVE BAND
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 (F100-PW-100(1) ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 75-002-029
 (RUN 04
 (07 MAY 75
 (PAGE 26

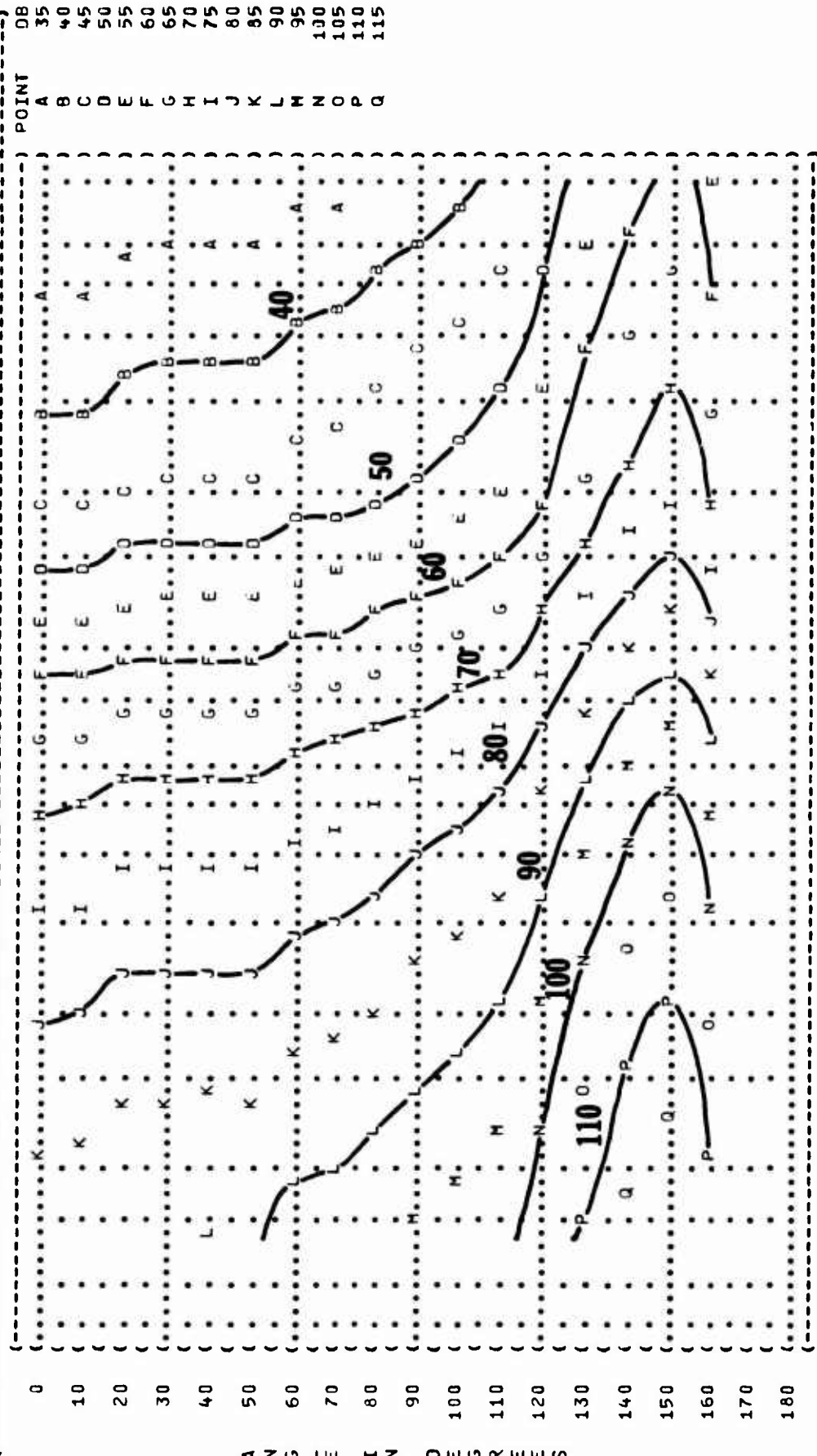


DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 31.5 HZ OCTAVE BAND
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 ((OPERATION:
 ((MILITARY POWER
 ((90% RPM
 ((F-15A AIRCRAFT
 ((F100-PW-100(1) ENGINE
 ((FAR FIELD NOISE
 ((FREE FLOW
 ((METEOROLOGY:
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 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((07 MAY 75
 ((PAGE 18
 (IDENTIFICATION:
 ((OMEGA 1.4
 ((TEST 75-002-029
 ((RUN 05



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
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 (F100-PW-100(1) ENGINE (90% RPM
 (FAR FIELD NOISE (SINGLE ENGINE
 ((FREE FLOW
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 75-002-029)
 (RUN 05)
 (07 MAY 75)
 (PAGE 19)



DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL {SPL}
 (EQUAL LEVEL CONTOURS (DB)
 (11 125 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (MILITARY POWER
 (F100-PW-100(1) ENGINE (90% RPM
 (FAR FIELD NOISE (SINGLE ENGINE
 ((FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 05
 (07 MAY 75
 (PAGE 20

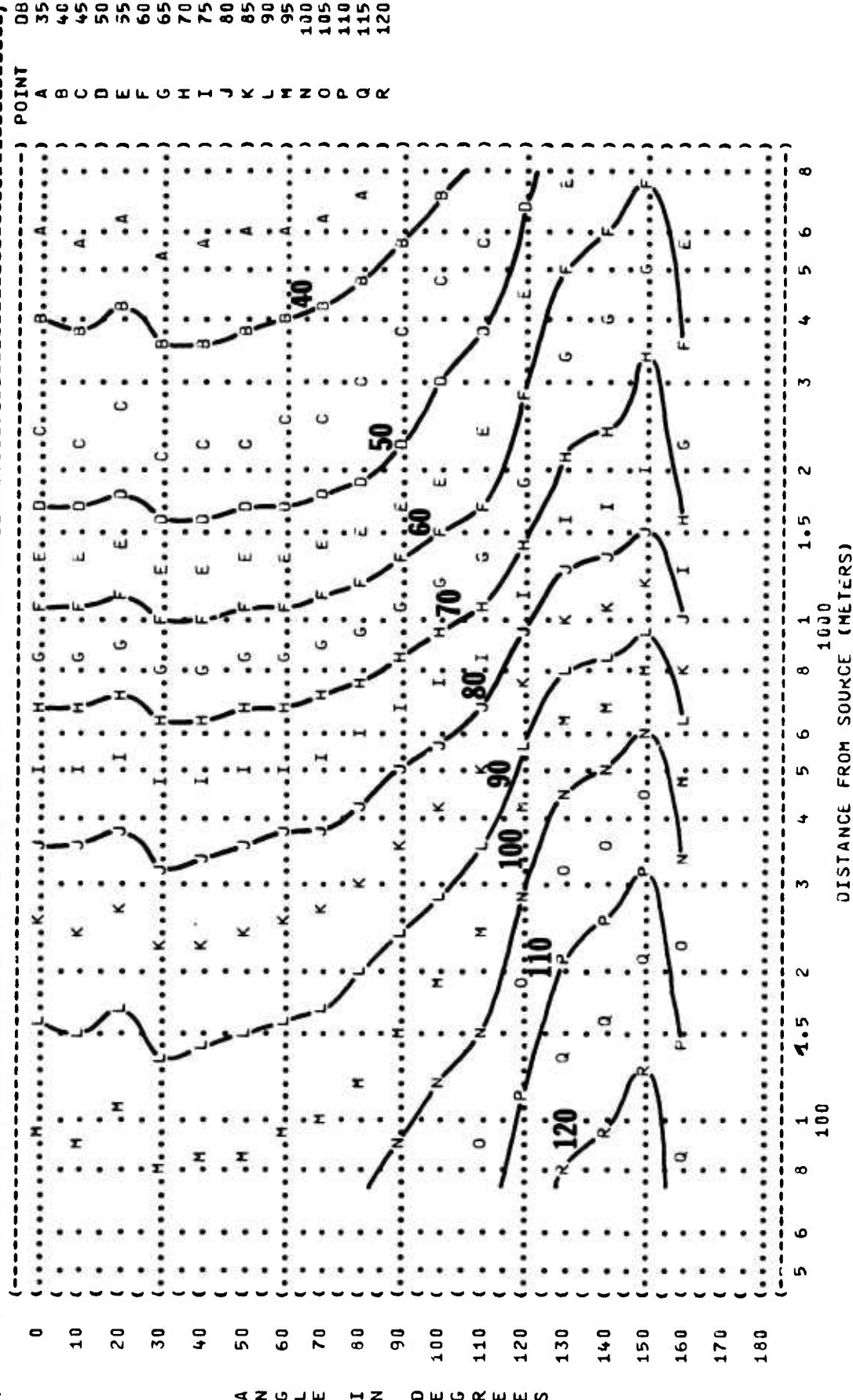


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
250 HZ OCTAVE BAND

11

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-029
RUN 05
07 MAY 75
PAGE 21

NOISE SOURCE/SUBJECT:

OPERATION:

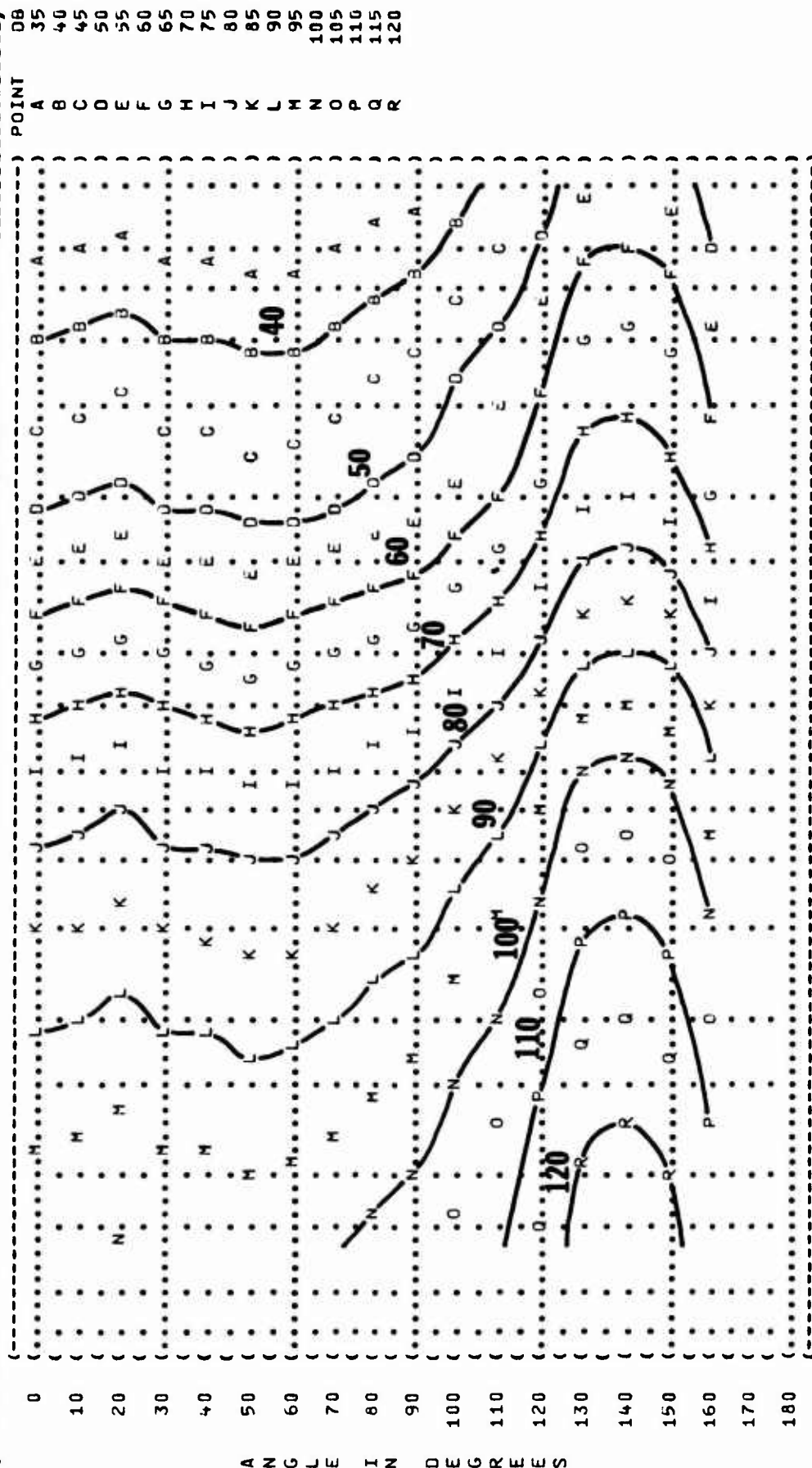
MILITARY POWER

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

SINGLE ENGINE
FREE FLOW



DISTANCE FROM SOURCE (METERS)

FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

11

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-029
RUN 05
METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATIONS:
MILITARY POWER
90% RPM
SINGLE ENGINE
FREE FLOW
NOISE SOURCE/SUBJECT:
F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE
07 MAY 75
PAGE 22

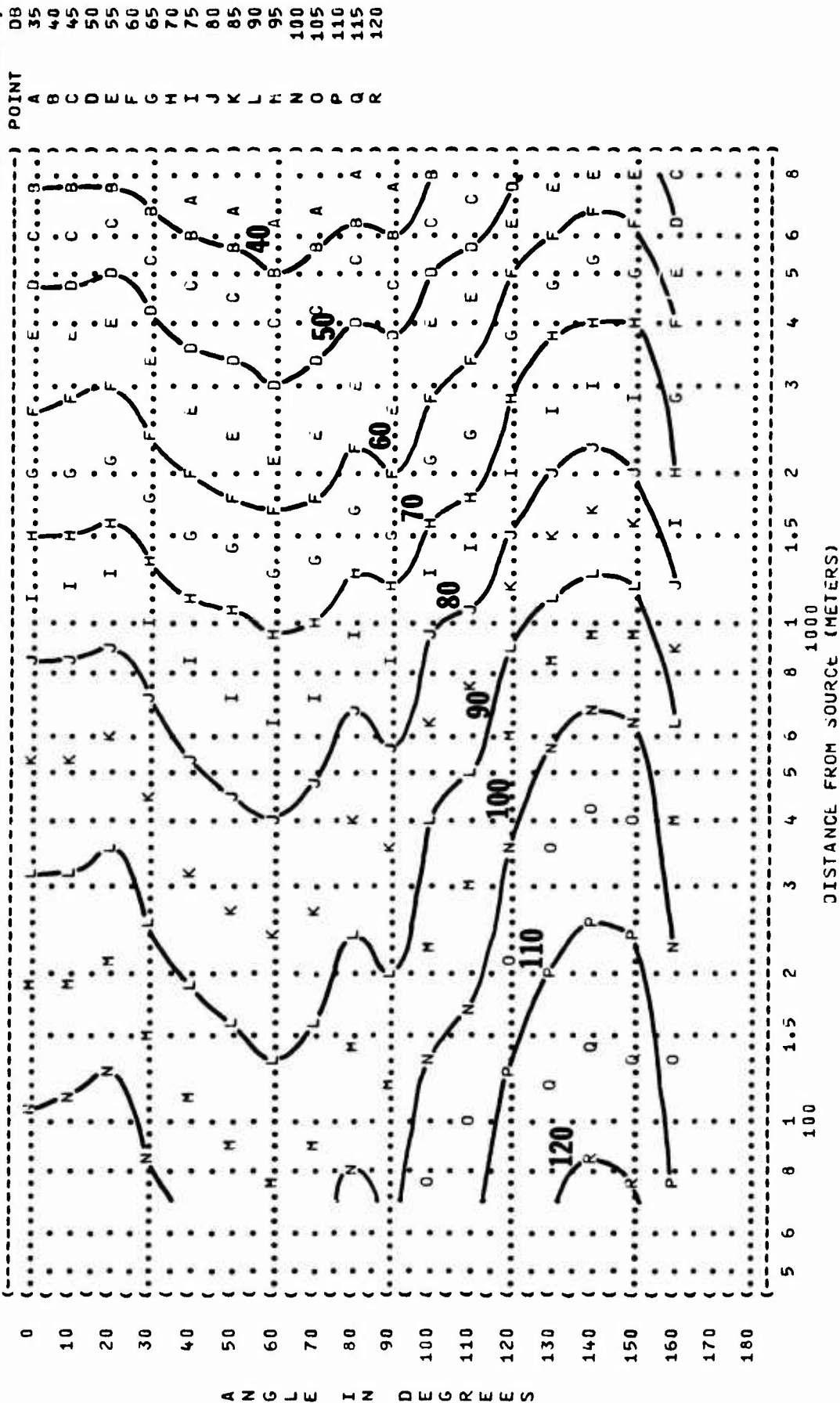


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 HZ OCTAVE BAND

11

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-029
RUN 05
METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION:
MILITARY POWER
90% RPM
SINGLE ENGINE
FREE FLOW
NOISE SOURCE/SUBJECT:
F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

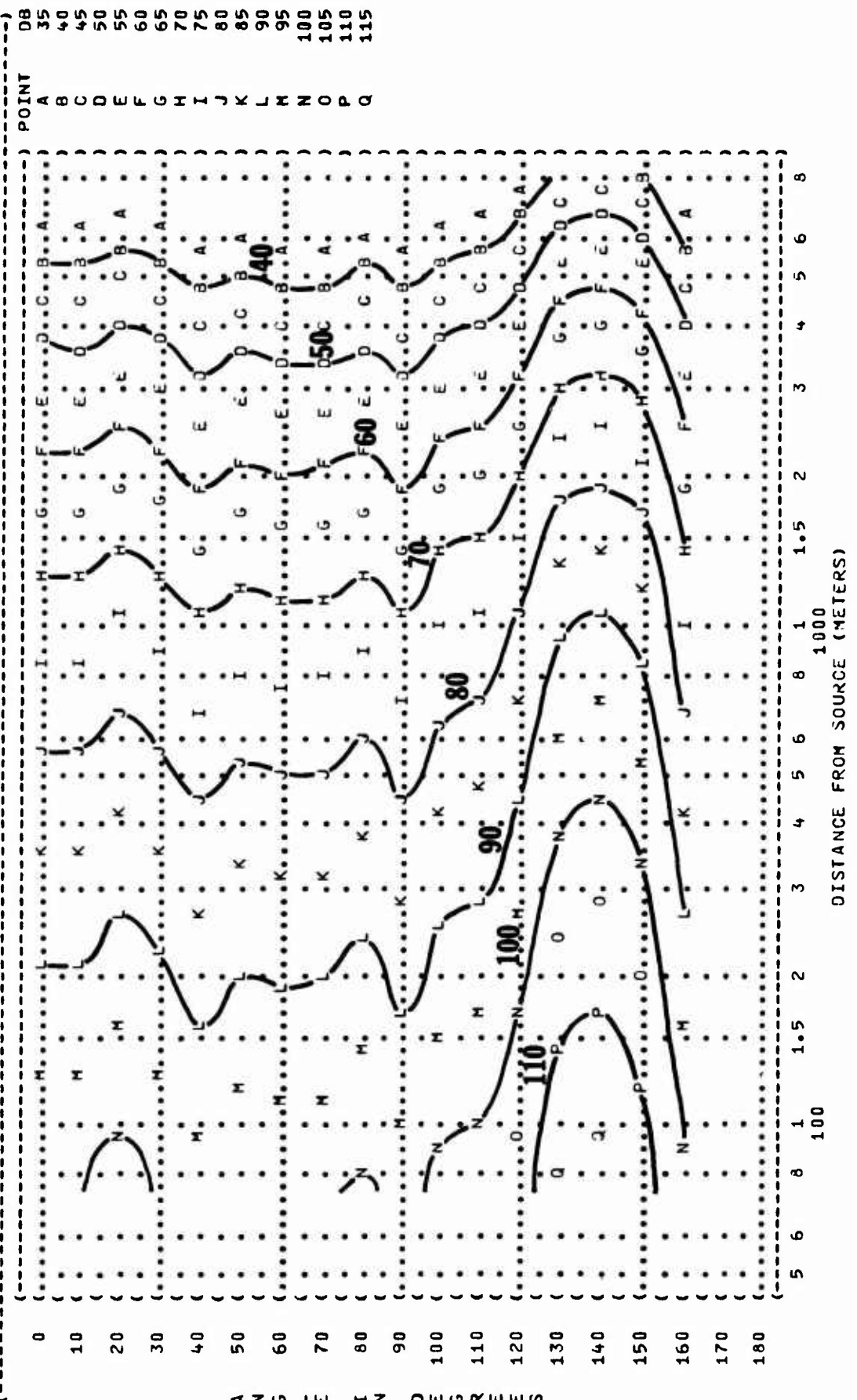
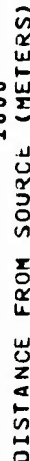
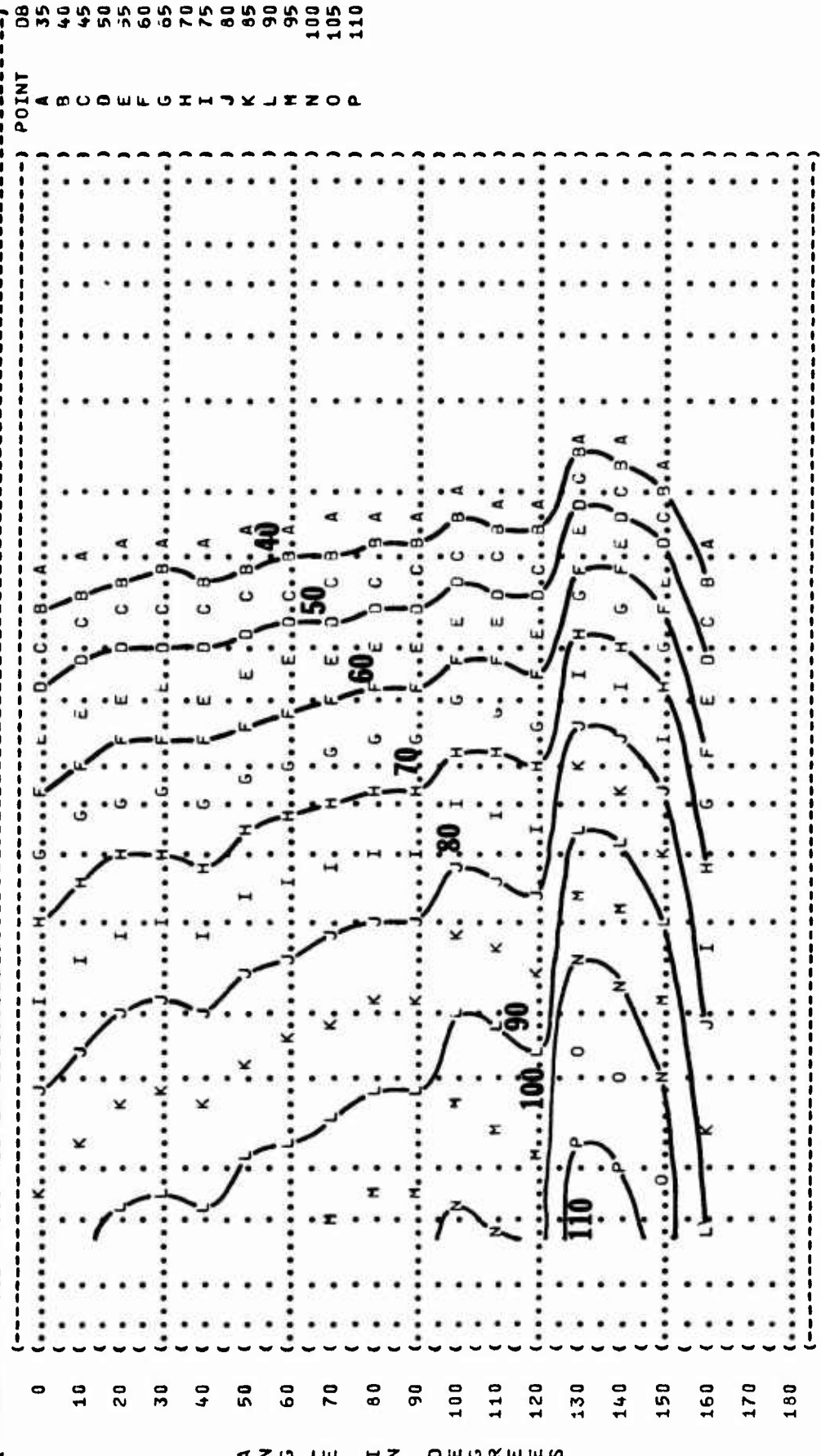


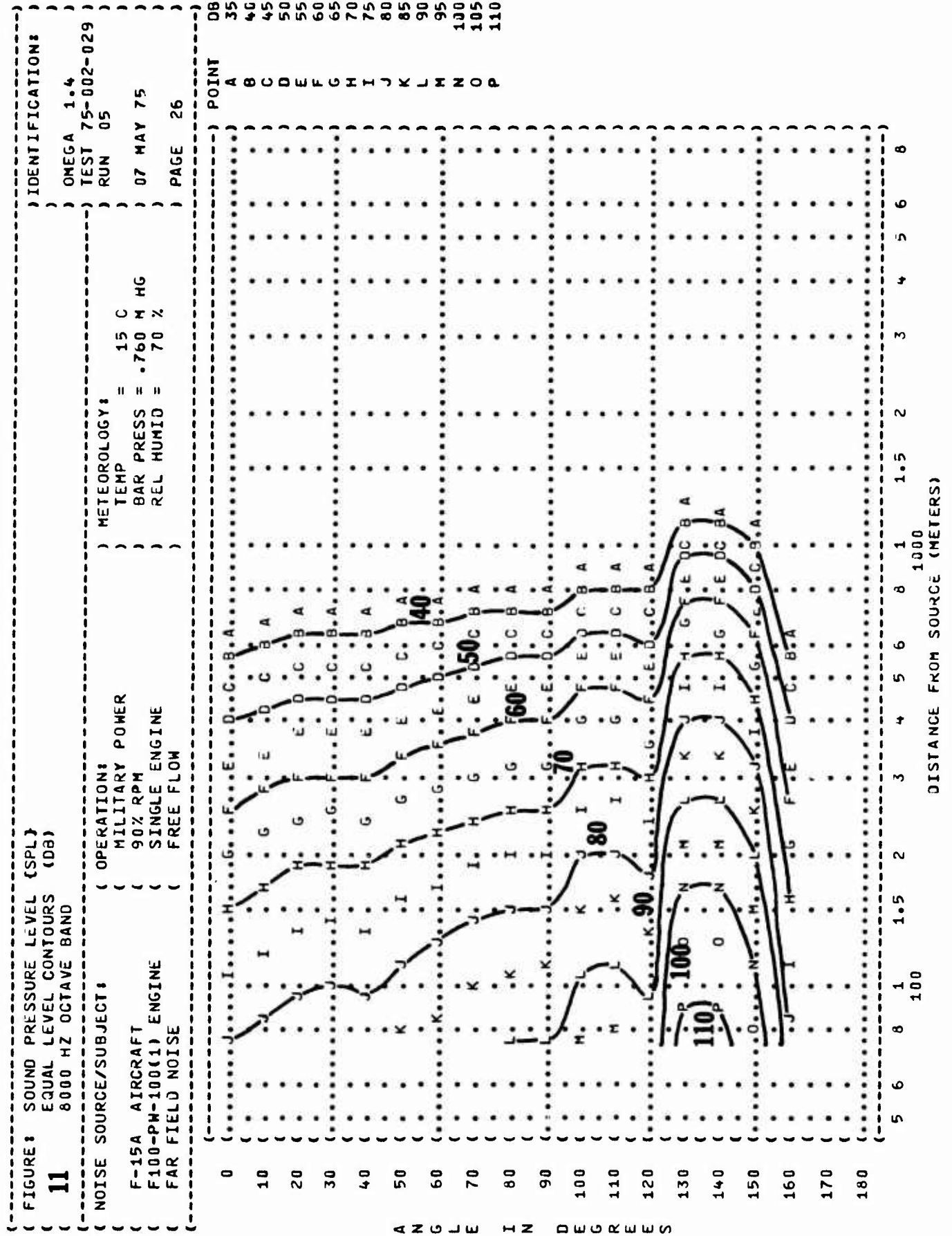
FIGURE:	SOUND PRESSURE LEVEL	{SPL}	IDENTIFICATION:
	EQUAL LEVEL CONTOURS	(DB)	
11	2000 HZ OCTAVE BAND		OMEGA 1.4
NOISE SOURCE/SUBJECT:			TEST 75-002-029
OPERATION:			RUN 05
MILITARY POWER			METEOROLOGY:
F-15A AIRCRAFT	90% RPM	TEMP = 15 C	
F100-PW-100(1) ENGINE	SINGLE ENGINE	BAR PRESS = .760 M HG	07 MAY 75
FAR FIELD NOISE	FREE FLOW	REL HUMID = 70 %	PAGE 24



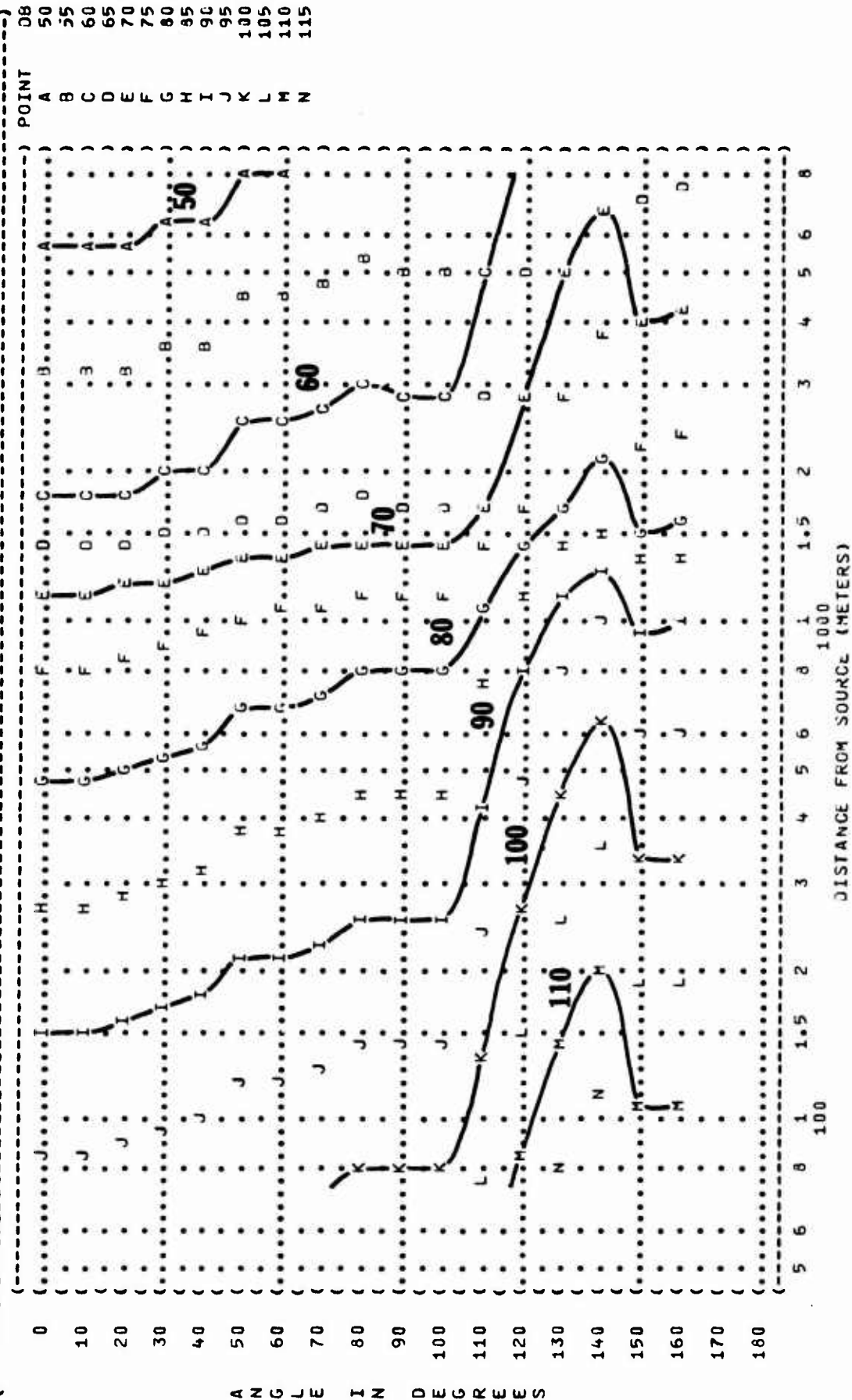
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 4000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (MILITARY POWER
 (F100-PW-100(1) ENGINE (90% RPM
 (FAR FIELD NOISE (SINGLE ENGINE
 (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 05
 (07 MAY 75
 (PAGE 25



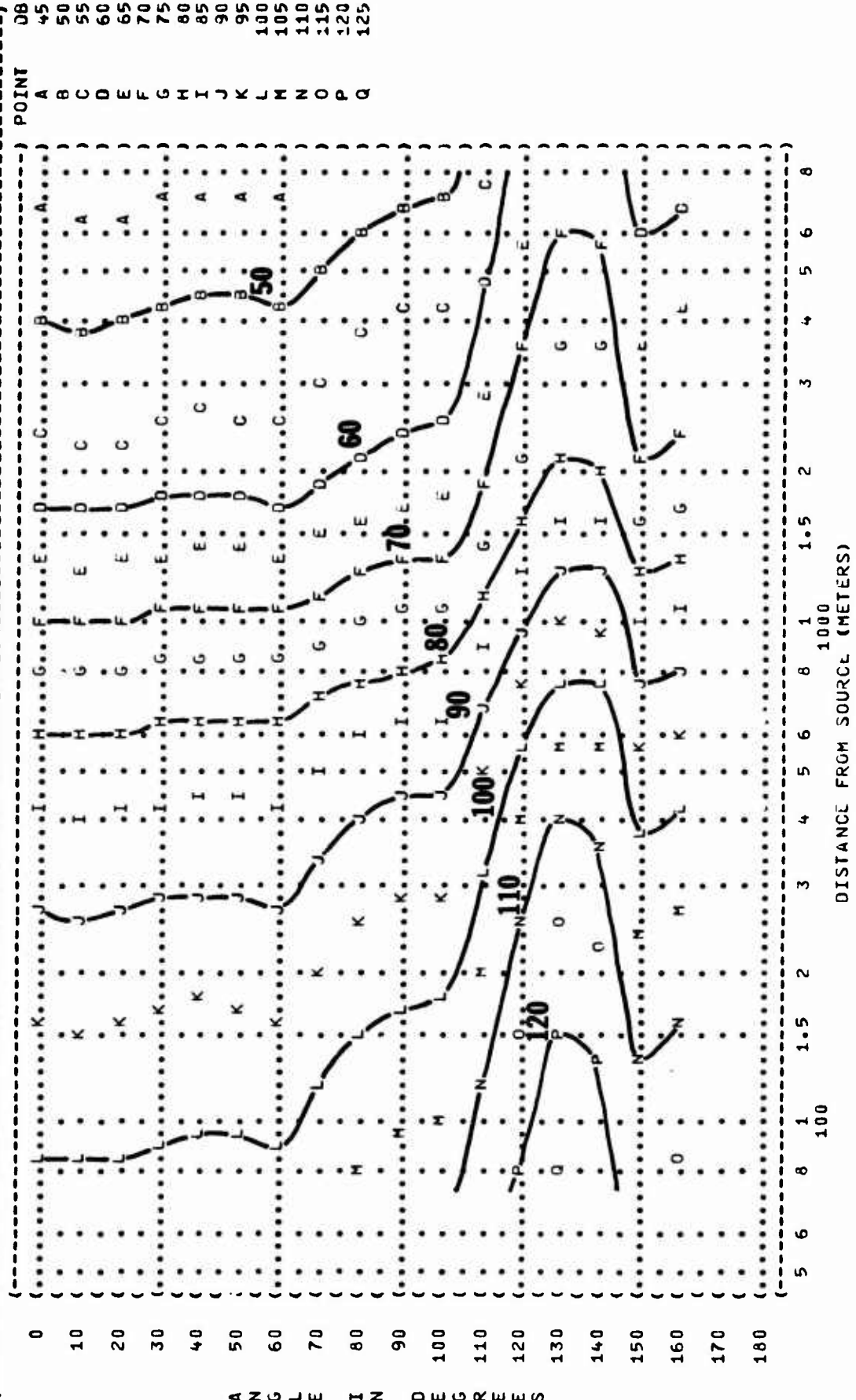
A N G L E I N D E G R E E S



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (31.5 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 ((OPERATION:
 ((AFTERBURNER, ZONE 5
 ((90% RPM
 ((SINGLE ENGINE
 ((FREE FLOW
 (F-15A AIRCRAFT
 (F100-PW-100(1) ENGINE
 (FAR FIELD NOISE
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 06
 (07 MAY 75
 (PAGE 18



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:
 ((AFTERBURNER, ZONE 5) TEMP = 15 C
 (F-15A AIRCRAFT (90% RPM) BAR PRESS = .760 M HG
 (F100-PW-100(1) ENGINE (SINGLE ENGINE) REL HUMID = 70 %
 (FAR FIELD NOISE (FREE FLOW)) PAGE 19)



ANGLE IN DEGREES

FIGURE: SOUND PRESSURE LEVEL (SPL)

EQUAL LEVEL CONTOURS (DB)
125 HZ OCTAVE BAND

11

NOISE SOURCE/SUBJECT:

F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

OPERATION:

AFTERBURNER, ZONE 5
90% RPM
SINGLE ENGINE
FREE FLOW

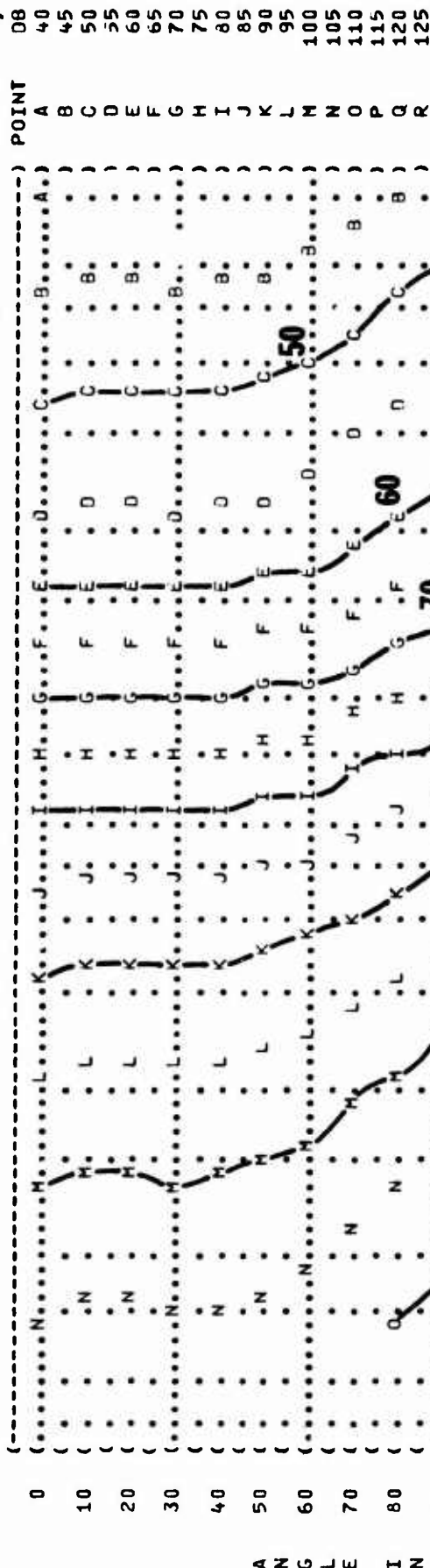
METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-029
RUN 06

07 MAY 75
PAGE 20



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 250 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-15A AIRCRAFT (AFTERBURNER, ZONE 5
 (F100-PW-100(1) ENGINE (90% RPM
 (FAR FIELD NOISE (SINGLE ENGINE
 ((FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 06
 (07 MAY 75
 (PAGE 21

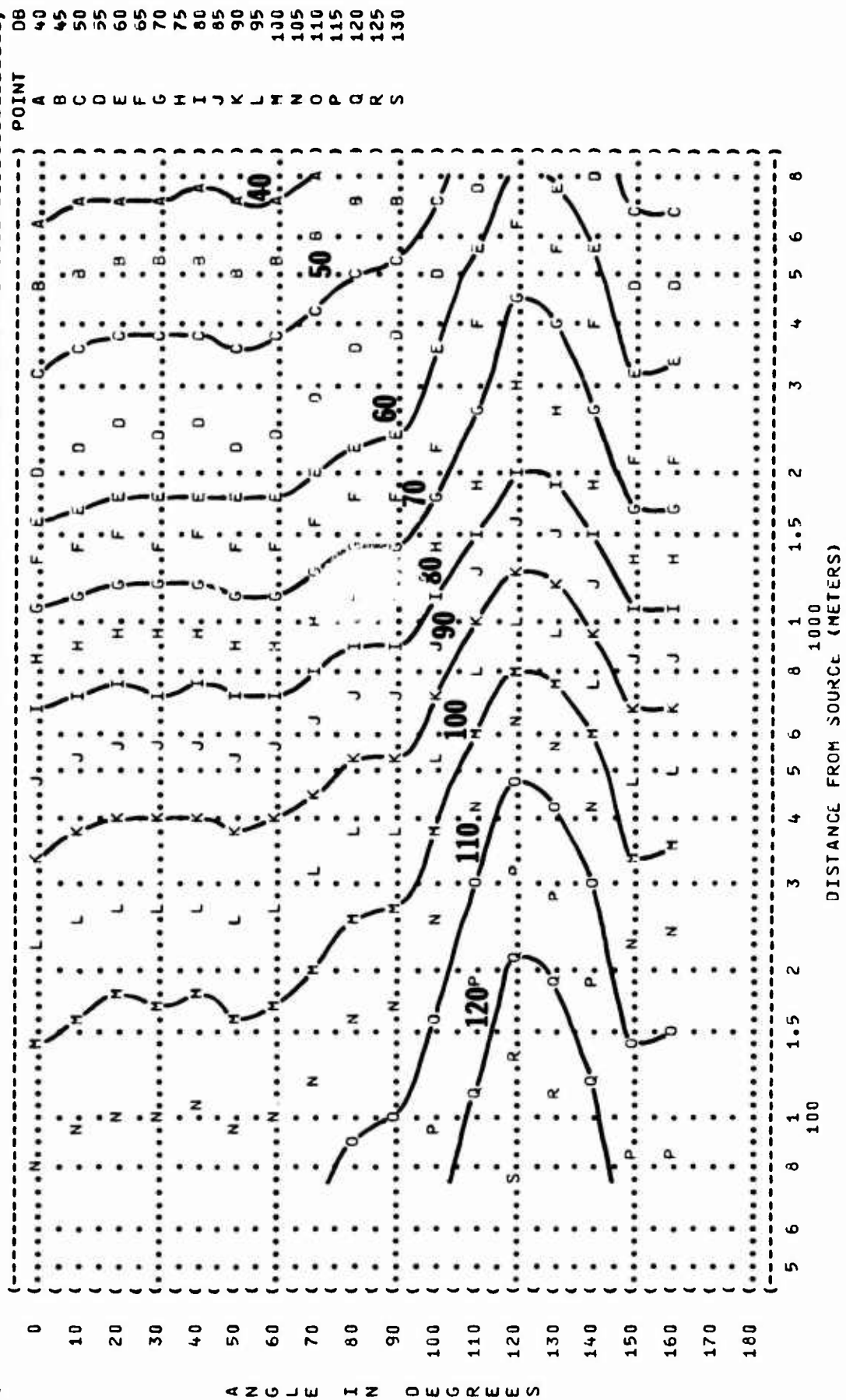


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

11

NOISE SOURCE/SUBJECT:

F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE

OPERATION:

AFTERBURNER, ZONE 5
90% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .750 M HG
REL HUMID = 70 %

IDENTIFICATION:

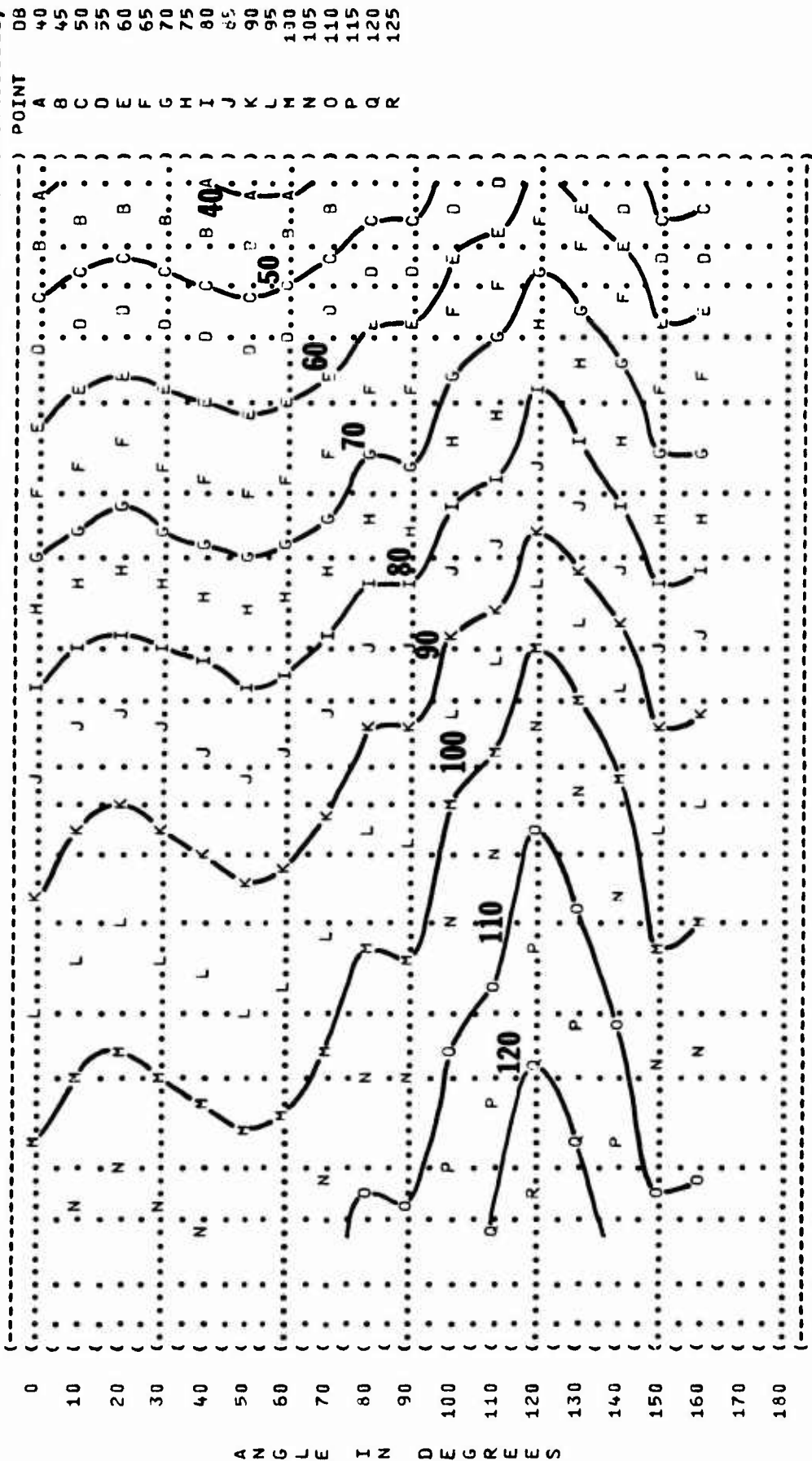
OMEGA 1.4

TEST 75-002-029

RUN 06

07 MAY 75

PAGE 22



DISTANCE FROM SOURCE (METERS)

11

OMEGA 1.4

```
TEMP      = 15 C
BAR PRESS = .760 MM
REL HUMID = 70 %
```

ANGIE IN DEGREE

1000
DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 (F-15A AIRCRAFT
 (F100-PW-100(1) ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (AFTERBURNER, ZONE 5
 (90% RPM
 (SINGLE ENGINE
 (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-029
 (RUN 06
 (07 MAY 75
 (PAGE 24

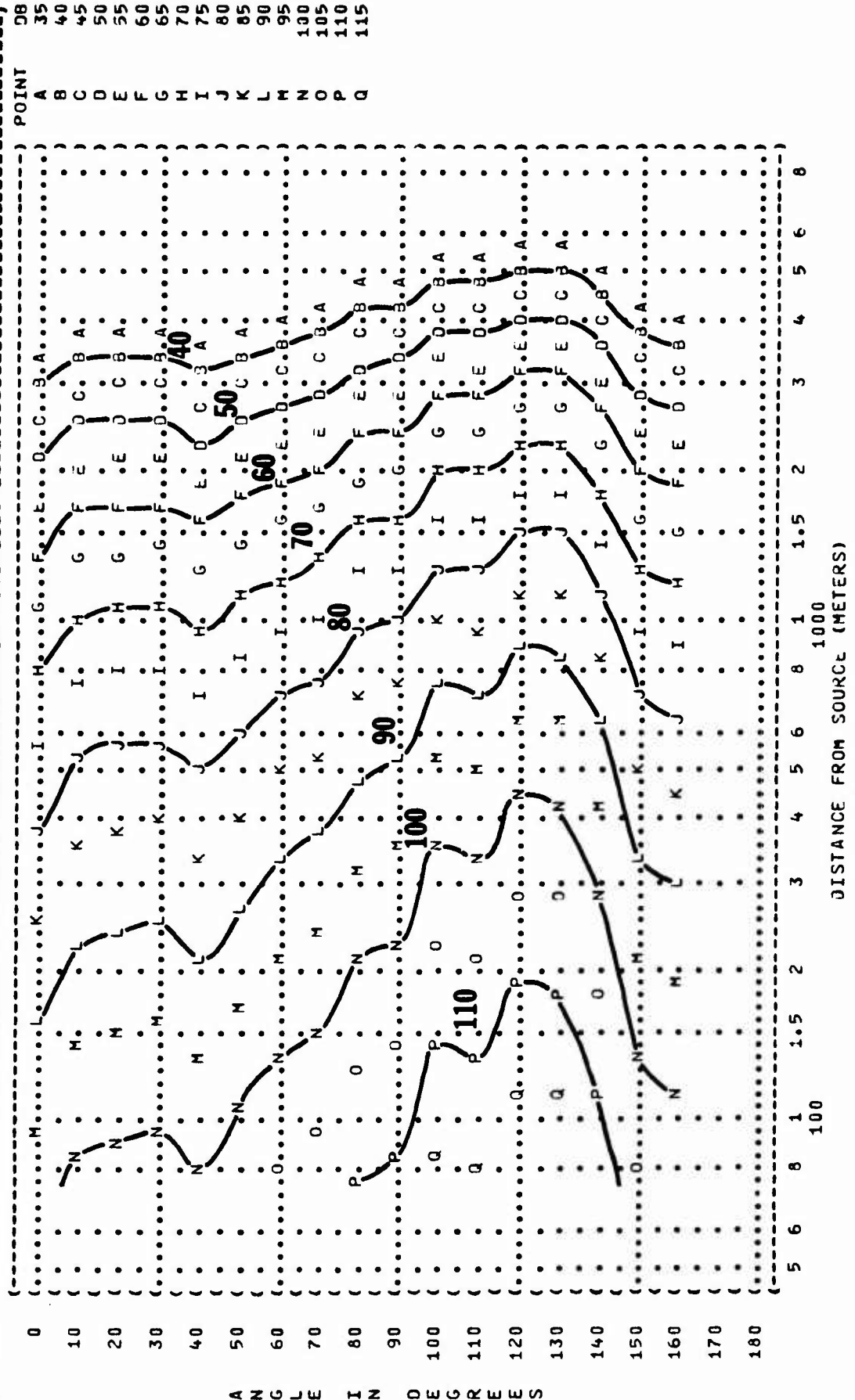


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
4000 HZ OCTAVE BAND

11

IDENTIFICATION:)
OMEGA 1.4
TEST 75-002-029
RUN 06
METEOROLOGY:)
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION:)
AFTERBURNER, ZONE 5
90% RPM
SINGLE ENGINE
FREE FLOW
NOISE SOURCE/SUBJECT:)
F-15A AIRCRAFT
F100-PW-100(1) ENGINE
FAR FIELD NOISE
PAGE 25

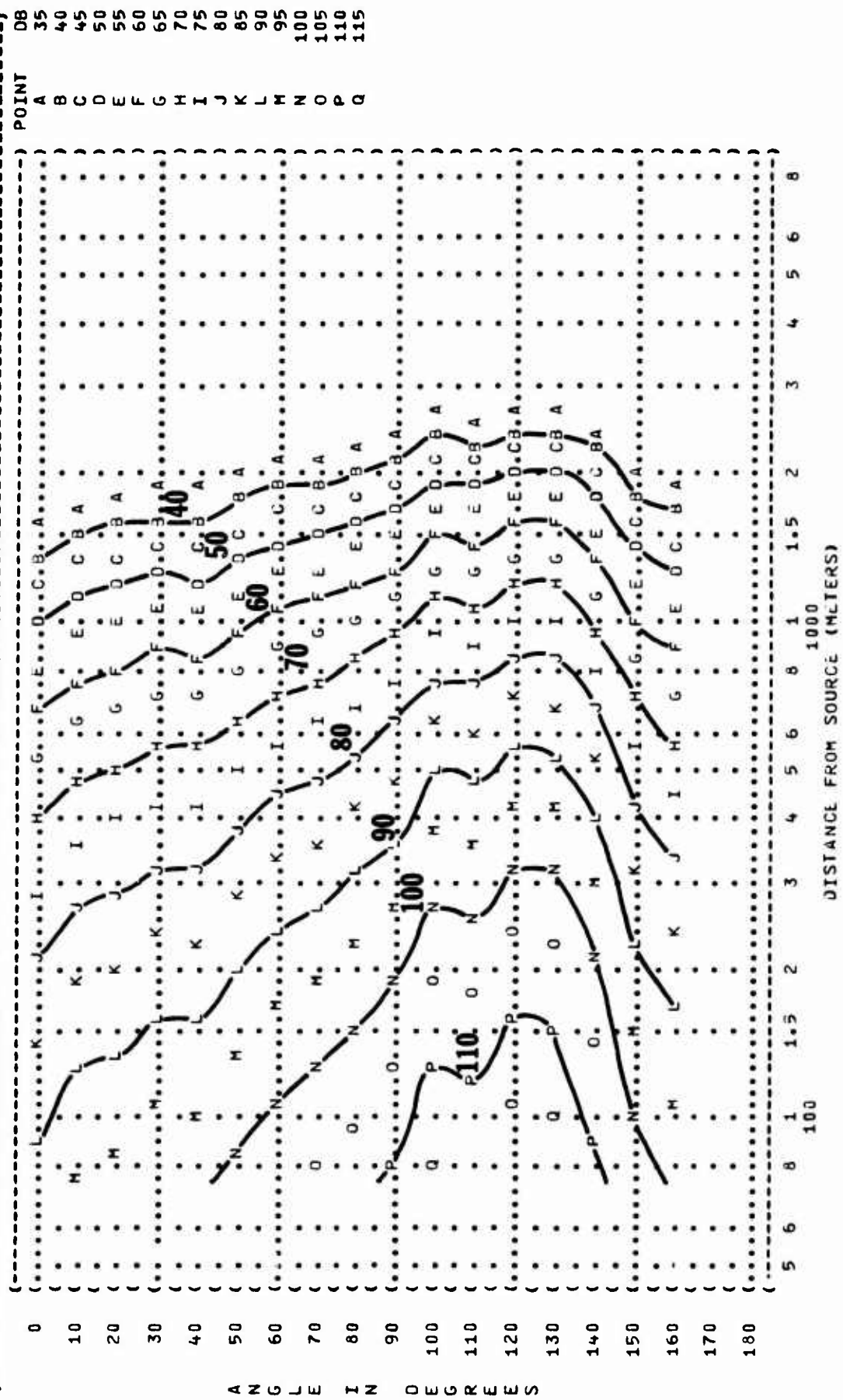


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

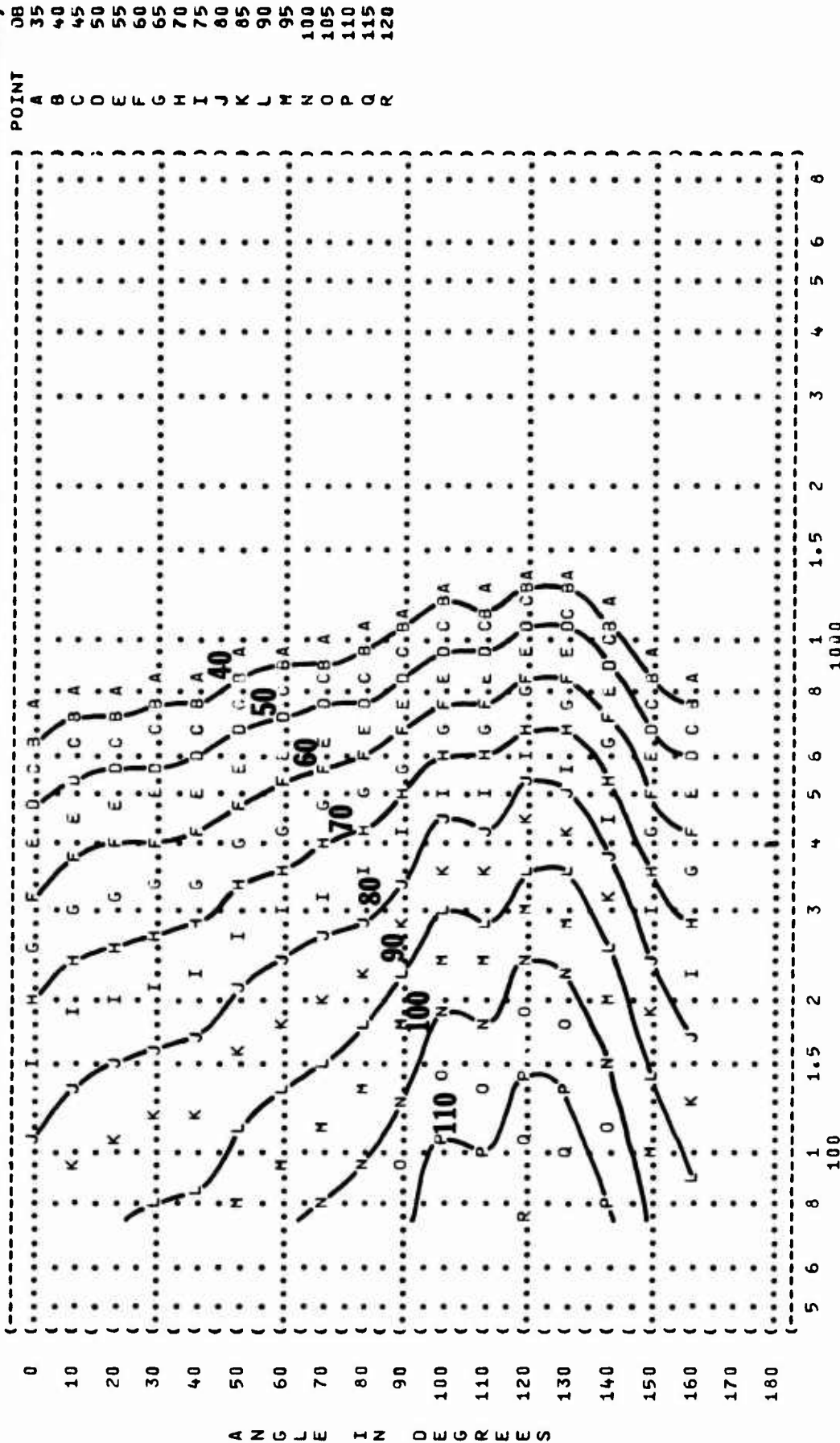
11

NOISE SOURCE/SUBJECT:
(F-15A AIRCRAFT
(F100-PW-100(1) ENGINE
(FAR FIELD NOISE

OPERATION:
(AFTERBURNER, ZONE 5
(90% RPM
(SINGLE ENGINE
(FREE FLOW

METEOROLOGY:
(TEMP = 15 C
(BAR PRESS = .760 M HG
(REL HUMID = 70 %

IDENTIFICATION:
(OMEGA 1.4
(TEST 75-002-029
(RUN 06
(07 MAY 75
(PAGE 26



ANGLES

DISTANCE FROM SOURCE (METERS)